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Faculty attitudes about students' ratings of instruction: Enhancing quality management in higher education

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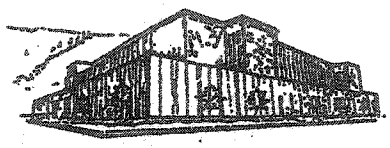

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FACULTY ATTITUDES ABOUT STUDENTS' RATINGS OF INSTRUCTION: ENHANCING QUALITY MANAGEMENT IN HIGHER EDUCATION

by

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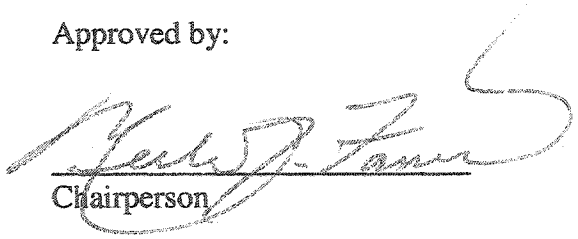

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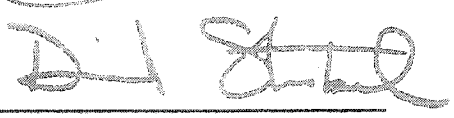

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Faculty Attitudes about Students' Ratings of Instruction: Enhancing Quality Management in Higher Education

Chairman: Merle Farrier, Ed.D.

Higher education in Taiwan has experienced rapid growth following education reform, especially at the college level. Quality management of higher education plays a major role for implementing educational reform. The quality of teachers is essential to a successful educational system. Student rating of instruction is one method of evaluating teaching quality. Chinese culture traditionally did not provide for students to challenge their teachers, much less evaluate them. This research sought to determine the attitude held by college teachers toward students' ratings of instruction, particularly in light of traditional Chinese culture.

The findings from this research suggest that college teachers have positive attitudes toward student evaluations when these evaluations are interpreted and used by the teacher for educational improvement in the classroom but not when interpreted and used administratively for employment related decisions. The majority of college teachers, 62.4%, had positive responses about students' ratings of instruction, 80.4% of college teachers believed that students' ratings of instruction provided the opportunity of self-evaluation, 74.4% of the college teachers was serious about the students' ratings of instruction, and 62.2% of the college teachers would use the results to modify teaching.

However, college teachers had negative responses about (a) a good teacher may not get high score, (b) the results can be made public, and (c) the results are inconsistency. College teachers believed that the results of students' ratings of instruction should not be used for re-employment, promotion, and upgrading. This study also found that 16% of college faculties never see the results of their teaching evaluations.

This study made a comparison with previous research done in universities using the same questionnaire. Generally, university educators have slightly higher positive attitudes toward students' ratings of instruction than college educators.

ACKNOWLEDGEMENTS

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All my professors and the administrative assistant, Julie Evans, have each contributed to my doctoral degree. Thank you for your support, advice, assistance, encouragement, patience, inspiration, and the many helps that you provided in every area.

I would like to express appreciate to my family, my dear Mother; my lovely husband, Luis; my two treasures, my sons, Henry and William; my brother, Stanley and his wife, Helen. I could not have finished without your endless love. To all my friends in Missoula, my life is totally different because of your friendship and help.

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Finally, I am grateful to the college teachers in Taiwan who participated in this study.

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CHAPTER ONE

STATEMENT OF THE PROBLEM

Introduction

The ongoing process of creating an optional higher education system in Taiwan to meet the needs of large numbers of diverse students is an immense undertaking. Education requires procedures to inform, encourage, and inspire individuals to use their intellects. Teacher quality is one important aspect when assessing the quality of an educational system (Astin, 1980; Frazer, 1992; Cheng, 1995). Altbach (1991) indicated that many developing and industrialized countries recognized the importance and value of higher education reform. In order to assimilate and reflect the worldwide educational trends, the Taiwanese government initiated and promoted educational reforms. To this end the Taiwanese government formed The Education Reform Consideration Committee in The Executive Yuan of Taiwan on September 21, 1994. This committee published its Final Recommendation for Education Reform in Taiwan on December 2, 1996 (Education Reform Consideration Committee in Executive Yuan of Taiwan, 1996). As one of the final recommendations, the Taiwanese government formed The Project of Education Reform of Taiwan in 1998 (Executive Yuan of Taiwan, 1998).

There are five major aspects of the Taiwanese educational reforms that are delineated in the project: (a) decentralizing the education system, (b) encouraging excellence from students, (c) allowing all students to continue their educational pursuits beyond the ninth grade, (d) enhancing educational quality, and (e) establishing a lifelong learning society. Since these guidelines have been implemented, higher education in Taiwan has seen experienced rapid growth, especially in the vocational education system.

Lin (1995) and Liao and He (2000) stated that Taiwanese education has two-tracks, which are (a) the normal education system, and (b) vocational education system. Junior high students or senior high students can select either option. Vocational high school students seldom enter into the normal school educational system due to the rigorous demands of the curriculum. Figure 1 shows the two-tracks education system in Taiwan.

Figure 1

Two-Tracks Education System in Taiwan

<table>
<tr><td colspan="3">Doctor students in Universities, Colleges or Technical Universities</td></tr>
<tr><td colspan="3">Master students in Universities, Colleges or Universities of Technology</td></tr>
<tr><td>Colleges or Technical Universities for two years</td><td>Colleges or Technical Universities for four years</td><td rowspan="2">Universities for four years</td></tr>
<tr><td rowspan="2">Junior Colleges for five years</td><td>Vocational High Schools for three years</td><td>High Schools for three years</td></tr>
<tr><td colspan="3">Fundamental Obligatory Education in Taiwan (total of nine years)
Junior High Schools for three years
Elementary Schools for six years</td></tr>
</table>

According to the recommendation of The Project of Education Reform of Taiwan and in order to elevate Taiwan's educational standards, especially the vocational education channel, the Ministry of Education of Taiwan encouraged junior colleges to reorganize into colleges of technology, colleges of technology to convert into universities of technology, and promoted the establishment of new higher education institutes.

Impact of Educational Reform on Higher Education

Junior Colleges

In Taiwan, from 1997 until the 2002 academic year, the total number of junior colleges decreased from 61 to 15, or 24.6%. However, from 1997 to the 2002 academic year, the total number of colleges grew from 40 to 78, for an increase of 95% (Bureau of Statistics, Ministry of Education in Taiwan, 2003). Therefore, many junior colleges had reorganized into colleges based upon the encouragement of the Ministry of Education as purposed in the education reforms.

Colleges

Taiwan had just two colleges in 1986, one private college of medicine and one public college of industry. By 1996, there were 27 colleges for vocational higher education in Taiwan. In academic year 2002, there were 96 colleges in Taiwan including colleges that renamed into technical universities. In other words, from 1987 until the academic year 2002, 94 colleges reorganized from junior colleges or were newly established institutes (Bureau of Statistics, Ministry of Education in Taiwan, 2003).

Universities

In Taiwan, from 1997 until the 2002 academic year, the total number of universities, including technical universities, increased from 38 to 61, or 60.5%. Thirteen

of the new technical universities were as a result of being renamed from colleges among those additional 23 universities (Bureau of Statistics, Ministry of Education in Taiwan, 2003).

From 1997 until the 2002 academic year, the total number of schools above the junior college level exceeded 15, which is an increase of 10.8% (Bureau of Statistics, Ministry of Education in Taiwan, 2003). Following the increase of the numbers of schools of higher education, and the subsequent increase in the numbers of students, teaching quality became a matter of widespread concern (Lin, 1998; Huang, 2000; Ma, 2001).

Enrollment Changes

Concurrently, the number of students in universities, colleges and junior colleges increased quickly in Taiwan during the academic years from 1997 to 2003. Total students above the junior college level increased by 48.4% during the academic years of 1997 to 2003 and the total number of junior college students decreased 33.4% to 66.6%. The total number of students who were eligible to receive a bachelor's degree upon graduation increased during this timeframe 132.3% (Bureau of Statistics, Ministry of Education in Taiwan, 2004d).

Evaluation and Ratings of Higher Education

To ensure the quality of Taiwanese higher education and promote the number of students who are eligible to receive their bachelors or higher degrees, the Ministry of Education in Taiwan decided to evaluate every school once every four years. According to the Ministry of Education one factor that is to be used for evaluating the performance of schools is students' ratings of instruction (Ministry of Education, 2002). According to

Chang (2000a), indications are that student ratings of instruction could enable faculties to become more aware of the weaknesses and strengths of their teaching.

The Problem

Impact of Growth upon Culture

As previously noted, during the academic years from 1998 to the 2002, the total number of technology colleges grew from 45 to 78, for an increase of 73.3%. Those newly established or reorganized technology colleges set up their own system for students' rating instruction in accordance with the requirement of the Ministry of Education in Taiwan including student evaluations (University Act in Taiwan, Chapter 14). These new reforms are posing new challenges for faculties that have never existed before in Chinese culture.

In the traditional Chinese culture, the heaven, earth, the monarchy, relatives, and teachers are the five major ethics or the most important components of Chinese society. Teachers historically were treated as if on a plane equal to heaven! One Chinese proverb says that if someone is your teacher for a day, he/she will be as your parent for your whole life. Consequently, teachers have traditionally had a very high status in the Chinese society. Students traditionally never challenged their teachers regardless of the issue or discipline under discussion. The concept of students evaluating teachers in Chinese culture potentially has an inherent conflict with traditional values that may affect both the students' willingness to objectively critique teachers, as well as the teachers' willingness to accept objective criticism.

Although traditionally teachers have not been questioned or assessed by students, there are recent studies that indicate when students are assessing faculties these student

have given the faculty lower marks than the instructors feel they deserve (Liao, 2000; Huang, 2002; Chang, 2003). This is important to note because it illustrates that students are willing to evaluate faculties and have given some low marks even with the historical high status of teachers in Chinese culture.

Impact of Growth upon Change

The rapid growth of both numbers of institutions and students within higher education has created a changing hierarchical environment. The initiation of student evaluations represents a major and fundamental change for both students and faculties. Fullan and Stiegelbauer (1991) addressed the issue that conflict and disagreement are fundamental to successful change. Rue and Byars (1997) also stated "resistance to change is a natural, normal reaction . . ." (p. 335). Effective change takes time. Faculties resist change, especially when those changes impact traditional culture. Chang (2000a) stated that traditionally, Taiwanese esteemed faculties and valued the morality of the campus. Based on this tradition, some faculties may treat students' ratings of instruction as an action of disrespect toward the revered tradition of esteeming faculties and valuing morality. However, the success of educational reform is dependent upon improved teacher quality and one important component of improving teacher quality is thought to be subjective students' evaluations of instruction.

Research Question

After the 1998 education reform in Taiwan, many junior colleges reorganized into colleges of technology. After reorganization, colleges were required by the Ministry of Education to implement students' ratings of instruction which was antithetical to traditional Chinese culture and had never been done before in colleges. The question that

framed this research was: What are the faculties' attitudes about students' ratings of instruction in Taiwanese colleges of technology?

Purposes of the Study

Determine Status of Faculties' Attitudes

The purpose of this research was to investigate college teachers' attitudes toward students' ratings of instruction in Taiwan. The number of higher education schools has increased rapidly in Taiwan after the recent education reform. The reorganized or newly established colleges have increased from 40 to 78, an increase of 95% from 1997 to 2002. Follman (1995) pointed out that the students' ratings of instruction are one of the methods to evaluate the quality of teaching and have been heavily used at the college level in the United States. The Taiwanese government agreed with the Follman's observation and others regarding the importance of students' ratings. Tsai (1989) purported that if faculties have positive attitudes toward students' ratings of instruction, the system of evaluation would be successful. However, he also asserted that if faculties have negative attitudes concerning student evaluation, the system would probably fail.

Seminal Research for Colleges of Technology

Recent investigations in Taiwan researched faculties' attitudes toward students' ratings of instruction (Chang, 2000a). For example, Chang's (2000a) study was limited to faculties' attitudes toward students' evaluations in teacher colleges. Chang (2003) made another investigation that compared faculty's attitudes toward students' ratings of instruction between those in teacher colleges and those in universities. In addition, Huang (2002) conducted research on faculties' attitudes toward students' ratings of instruction among 11 technical universities, again a very different level of education than colleges of

technology. To date, there have been no investigations into the students' evaluations of instruction in colleges of technology in Taiwan. Therefore, this study acquired baseline data and researched the status of faculties' attitudes in colleges of technology toward students' evaluations as well as provided research that may be used for comparison.

Significance of the Study

Research ascertaining information regarding faculties' attitudes toward students' evaluations will contribute important data regarding the status of this component of educational reform. Government, school administrators, and educational officials will be able to use these findings to assess the success, or lack thereof, of student evaluations as a component of increasing faculties' effectiveness in the classroom. In addition, these findings may contribute to how officials design professional development and other pertinent activities related to faculty growth. Improving faculty quality through student feedback will be in itself evaluated and will provide the basis by which this evaluation process is modified as educational reforms continue to mature.

Definitions of Terms

The fundamental distinctions of the higher education entities, which are regulated and defined by Ministry of Education of Taiwan, follow:

College of Technology. Institutions comprised of two or less colleges within one school, and each college has three or more departments. Students receive bachelors' degrees when they graduate from vocational technical colleges (Department of Vocational Education, Ministry of Education in Taiwan, 1996).

Junior College. These colleges are institutions where no bachelor's degree can be conferred when students graduate.

Private school. These are institutions where most of the funds come from students' tuition fees. The members of school boards in private schools are from private organizations or are private citizens.

Public school. These are institutions where the government assigns members to the school boards and the largest percentage of funding of public schools comes from the government.

Students' ratings of instruction. For the purpose of this study, the term "students' ratings of instruction" has the same meaning as "teaching evaluations by students" or "student evaluations."

Teacher College. These are institutions that have only an education department.

Technical University. These are institutions that have three or more colleges in one school, and each college has three or more departments.

Two-Track System. Taiwanese education has a two-track system. The two-track consists of so-called "normal" education and vocational education (Lin, 1995; Liao and He, 2000). Two different departments in the Ministry of Education of Taiwan are in charge of the two-track system, the Department of Vocational Education and the Department of Higher Education. In the vocational educational channel, higher institutes include junior colleges (excluding before third years), colleges of technology and technical universities.

Reorganization. According to the Implementation Regulations Governing the Reorganization of Junior Colleges into Technical Colleges and the Establishment of Junior College Divisions by Technical Colleges and Technical Universities in Taiwan (Ministry of Education in Taiwan, 2002), the term of reorganization will refer to a junior

college that is converted into a college of technology.

Rename. According the Verification Regulations of Governing the Renaming of Technical colleges into Technical Universities in Taiwan (Ministry of Education in Taiwan, 2004), the term of renaming will refer to a college of technology that converted into a technical university.

CHAPTER TWO

LITERATURE REVIEW

The Influence of Education Reform in Taiwan

Importance of Education Reform

Lee (1994), the chief of Education Reform Consideration Committee in Executive Yuan of Taiwan, stated: "In 21st Century era, promoting technology, culture, and education is the only way that our country has a chance to be one of developed countries in whole of the world" (¶ 1). He further articulate: "the promotion of technology and culture depends on excellent people. Only education can foster excellent people. Therefore, education reform is the most important thing for our country right now" (¶ 1).

Growth of Schools

According to the final Recommendation of The Education Reform Consideration Committee in Executive Yuan of Taiwan in 1996, the Taiwanese government created the "Project of Educational Reform" in 1998 (Executive Yuan of Taiwan, 1998), which revised the University Act of Taiwan in 2001 and 2003 (University Act of Taiwan). Since 1998, the Taiwanese government has championed the cause of facilitating vocational junior colleges to be reorganized into colleges of technology, colleges of technology to be renamed into technical universities, and encouraging the establishment of new higher education institutions. With governmental support, the numbers of vocational higher education institutions, their students, and academic faculties have grown (Bureau of Statistics, Ministry of Education in Taiwan, 2004c).

Table 1 shows the variation in the numbers of higher institutes in Taiwan from 1997 to 2002. During 1997 to 2002, the total number of junior colleges dropped from 61

to 15, decreasing to 24.6% from 1997 to 2002. However, from 1997 to 2002, the total numbers of all colleges was up from 40 to 78, an increase of 95%. Universities increased from 38 to 61, a growth of 60.5%. Since 1997, total schools above junior college level exceeded 15, a 10.8% increase when being compared to 1997 (Bureau of Statistics, Ministry of Education in Taiwan, 2003).

Table 1

Summary of Universities, Colleges and Junior Colleges

Academic Year	Total	%	University	%	College	%	Junior College	%
*1997	139	100.0%	38	100.0%	40	100.0%	61	100.0%
1998	137	98.6%	39	102.6%	45	112.5%	53	86.9%
1999	141	101.4%	44	115.8%	61	152.5%	36	59.0%
2000	150	107.9%	53	139.5%	74	185.0%	23	37.7%
2001	154	110.8%	57	150.0%	78	195.0%	19	31.1%
2002	154	110.8%	61	160.5%	78	195.0%	15	24.6%

Note. Data basis is 1997.

Growth of Faculties

The number of institution of higher education in Taiwan increased after education reforms and the number of faculty also changed. Table 2 enumerated the variation in the numbers of faculties in universities, colleges, and junior colleges from 1997 to 2003 (Bureau of Statistics, Ministry of Education in Taiwan, 2004c). From 1997 to 2003, total faculties in junior college decrease 85.5% to 14.5%. However, during the same time, total

faculties in college increased 97.8%, and total faculties in university increased 60.6%. The total faculties above junior colleges also showed an increase of 22.3%.

Table 2

Number of Faculties in Universities, Colleges and Junior Colleges

Academic	Total		University		College		Junior College	
Year	Number	%	Number	%	Number	%	Number	%
1997	38,806	100.0%	18,099	100.0%	8,464	100.0%	12,243	100.0%
1998	40,149	103.5%	18,597	102.8%	10,125	119.6%	11,427	93.3%
1999	41,949	108.1%	20,449	113.0%	14,295	168.9%	7,205	58.8%
2000	43,391	111.8%	23,270	128.6%	16,295	192.5%	3,826	31.3%
2001	44,769	115.4%	24,547	135.6%	17,528	207.1%	2,694	22.0%
2002	46,042	118.6%	26,560	146.7%	17,551	207.4%	1,931	15.8%
2003	47,472	122.3%	28,964	160.0%	16,738	197.8%	1,770	14.5%

Note: Data basis was 1997

Growth of Students

According to the Ministry of Education in Taiwan (Bureau of Statistics, Ministry of Education in Taiwan, 2004d), higher education entities include universities, colleges and the last two years in junior colleges. There is some marked difference between those varied levels of institutions. Students who graduate from junior college cannot get their bachelors' degrees at those institutions but acquire a diploma indicating a graduation from junior college. Only universities and colleges are empowered to grant graduates with bachelors' degrees. Table 3 shows the increase in the number of higher education

students from 1997 to 2003.

Table 3

Number of Students in Universities, Colleges and Junior Colleges

Academic Year	Total	%	Bachelor and Higher					Junior College	%
			Doctor	Master	Bachelor	Subtotal	%		
*1997	856,186	100.0%	10,013	38,606	373,702	422,321	100.0%	433,865	100.0%
1998	915,921	107.0%	10,845	43,025	409,705	463,575	109.8%	452,346	104.3%
1999	994,283	116.1%	12,253	54,980	470,030	537,263	127.2%	457,020	105.3%
2000	1,092,102	127.6%	13,822	70,039	564,059	647,920	153.4%	444,182	102.4%
2001	1,187,225	138.7%	15,962	87,251	677,171	780,384	184.8%	406,841	93.8%
2002	1,240,292	144.9%	18,705	103,425	770,915	893,045	211.5%	347,247	80.0%
2003	1,270,194	148.4%	21,658	121,909	837,602	981,169	232.3%	289,025	66.6%

Note: Data basis is 1997.

Total students above the junior college level increased 48.4% from 1997 to 2003. The numbers of total junior college students decreased 33.4% to 66.6%. However, total students who could receive a bachelor degree (or higher) at graduation increased 132.3% (Bureau of Statistics, Ministry of Education in Taiwan, 2004d).

To further illustrate the rapid increase in numbers of higher education students in Taiwan, Huang (2003) stated, " . . . in the 2001 academic year, compared with the 1976 academic year, the number of college students increased 264%, university students increased 481%, master degree candidates increased 2109%, and doctoral candidates increased 4397%" (p. 1).

Junior Colleges Reorganized

Lin et al.'s (1995) study stated:

> In higher education in the 1992 academic year, government's average disbursed for each public institute's student was 169,000 NT dollars per year. The average governmental disbursement for each private institute's student was 82,000 New Taiwanese (NT) dollars per year (in July 2003, 1 US dollar equals 35 NT dollars). Private school students are governmentally funded at 48% of public schools' students. (p. 3)

The tuition fee differential in universities between public and private is more than 1:3 (Center News, 1999, January 6). In 2002, total educational financial expenses in Taiwan were 6.09% of Gross National Product (GNP). Public school expenses were 4.39% of GNP, while private school expenses were 1.71% of GNP (Bureau of Statistics, Ministry of Education in Taiwan, 2004a). The financial support from the government for public and private school systems are very different as a greater percentage of financial funding comes from students' tuition in private schools (Lin et al., 1995).

Lin et al. (1995) stated that the government in Taiwan sets the amount of tuition. There are different tuitions in different grade levels at five-year junior colleges in Taiwan. The tuition for the first three years is approximately similar to that paid for students in high school. The tuition for the last two years is approximately similar with the cost paid by students at the university. That means that the tuition of educational levels less than 12th grade is approximately 75% of the tuition paid at educational levels more than the 12th grades (Liao and He, 2000). According the Bureau of Statistics, Ministry of Education in Taiwan (2004a), in 1997, the government spent $92,192 NT dollars for the

education of each junior college student, and $171,730 NT dollars for each university or college student. In 2001, the government spent $83,538 NT dollars for each junior college student, and $166,860 NT dollars for each university or college student. These reported figures show the financial disparity between money invested in junior colleges and that spent on universities or colleges. This fact alone prompts junior colleges to reorganize to college status. A segment of the junior college students are under 12th grade, and a portion of the students are above 12th grade. All students in those institutions designated as colleges are above the 12th grade. In addition, private colleges are able to receive more tuition fees than junior colleges.

Table 4 showed that 94 colleges have been reorganized from junior colleges or newly established after 1987. Sixty-five of them are private, which is 69.1% of the total of Taiwan's reorganized or newly established higher schools. Sixty-nine colleges, which are 73.4% of the colleges, were reorganized or newly established after 1997 (Bureau of Statistics, Ministry of Education in Taiwan, 2004b). This means that most colleges were reorganized or established after the educational reform act was enacted in Taiwan.

Table 4

Number of Colleges Which Were Reorganized or Newly Established After 1987

Academic Year	Total	%	Reorganized or Newly Established			
			Public		Private	
1987	10	10.6%	9	9.6%	1	1.1%
1990	1	1.1%			1	1.1%
1991	4	4.3%	2	2.1%	2	2.1%
1994	4	4.3%	3	3.2%	1	1.1%
1995	1	1.1%	1	1.1%		
1996	5	5.3%	3	3.2%	2	2.1%
Subtotal	25	26.6%	18	19.1%	7	7.4%
1997	10	10.6%	3	3.2%	7	7.4%
1998	6	6.4%	2	2.1%	4	4.3%
1999	21	22.3%	3	3.2%	18	19.1%
2000	21	22.3%	2	2.1%	19	20.2%
2001	8	8.5%	1	1.1%	7	7.4%
2002	3	3.2%			3	3.2%
Subtotal	69	73.4%	11	11.7%	58	61.7%
Total	94	100.0%	29	30.9%	65	69.1%

Note: Data came from the Bureau of Statistics, Ministry of Education in Taiwan, 2004.

Institutions' Quality

The rapid expansion of higher education after educational reform in Taiwan is promoting the availability of a well-educated labor market. The quality school teachers teach useful skills (Glass, 1993). Nevertheless, an institution's quality is an important fundamental aspect of education and the quality of institutions was now being called into question. Fullan and Stiegelbauer (1991) believed that educational change is not in essence, the process of learning how to do something new, but it is the process of redoing, behaviors and skills, and rethinking beliefs and understandings, pursued through new material, policies and structures. Jones (2002) indicated, "The characteristics of a 'good' institution . . . almost exclusively conceived in terms of the quantity and quality of institutional assets -- faculty, facilities, library/information resources, etc." (p. 1).

The Ministry of Education in Taiwan will evaluate each vocational higher educational institution including colleges of technology and technical universities once every four years to assess the quality of higher education (Department of Vocational Education, Ministry of Education, 2002). Also, the White Book of Taiwanese Higher Educational Policy (Ministry of Education in Taiwan, 2001) stated that "the promotion of higher educational quality should be valued while the quantity of higher education is increasing. The national competitive ability will be not enhanced if there is a lack of high quality research and effective teaching" (p. 3). Furthermore, the Control Yuan in Taiwan (2004) redressed the Ministry of Education in Taiwan that the quality of higher education should be the major issue for coming education reform project.

Teaching in Chinese Society

Teachers' Roles

Lee (1994, 1996), the chief of education reform committee in Taiwan, pointed that the Taiwan educational reforms were based on the needed to occur for the Taiwan education system to be able to meet the need of the 21st Century and internationalization. Gradually teachers are adapting and incorporating components.

Lewton-Brain (1993) believed "The teachers' role is as a guide, an instigator, a devil's advocate as well as an instructor" (p. 1). Means and Olson (1994) posited, "The teacher is a coach . . . . It does not mean fading into the background. It means providing structure and actively supporting students' performances and reflections" (p. 17). Taiwanese scholar Huang (2002) stated "Taiwanese teachers gradually adopt the students' ratings of instruction because of the change of age and the change of social value" (p.276). These studies illustrated the roles Taiwanese teachers will need to exhibit in order to effectively teach in these new educational environments.

Following social change, usually there are changes in the focus of education, including: teachers' roles, teacher-student interaction, and the overall education systems. Therefore, when examining teacher-student interactions in Taiwan, it is necessary to adopt a dynamic perspective to infuse an ancient profession with new meanings (Chen, 1997; Fu, 2000; Chen, 2004).

The academic perspectives that allow researchers to approach the problem of teacher-student relationships are mainly found in ethics or moral philosophy. In the study of teacher-student relationships researchers mainly employ concepts from psychology and sociology. These academic perspectives are an emphasis on youths' psychological

development; understanding of teachers' and students' personalities and self-concepts; and the employment of the reinforcement theory in academic psychology. Furthermore, researchers also assess student-teacher relationship by role-playing, interpersonal interaction, and other successful modalities of classroom management (Chen, 1997; Wu, 2001).

From ancient times for the Chinese, the "teacher is embodiment of knowledge" (Tsai, 2004, ¶ 1). Teacher-student ethics have received much emphasis. Heaven, earth, monarch, relatives, and teachers are the five major ethics or most important components of Chinese society. Traditionally, students have been advised to "Respect the teacher and value the *Tao*." Why should a student respect the teacher? Why does a teacher deserve this authority? In an ever-changing society, with emphasis on liberty and democracy, such traditional ideas are being challenged (Tsai, 2004).

Teacher-Student Interaction

Traditionally, a teacher-student relationship relies on one-way communication, as Han-Yu (768-824) professed that to be a teacher meant transmitting the Tao, teaching knowledge and dispelling perplexity. This kind of philosophy has a profound impact on Chinese teachers' attitudes. However, in modern times, two-way communication is essential. Today students want to be able to ask questions and obtain help in solving problems. In 1961, the Berne E. Analysis (Berne, 1961) was divided with a focus on interaction, the roles of parents, adults, and children. This analysis determined that if both the teachers and students can fulfill mutual expectations to required satisfaction, it is possible to achieve complementary interaction. On the other hand, if both sides do not get some satisfaction, it is regarded as a failed transaction, which will lead to frustration and

other obstacles. Pitman, Gamradt, Dobbert, Chun, and Eisikovits (1984) considered communication as a stimulus and response relationship arising from the personal and interpersonal conditions and skills of both parties, including language and non-language factors.

Obstacles for teacher-student communication can be categorized as ideas, concepts, habits, and roles (Chen, 1997). With differences in ages, knowledge standards, and social experiences, a generation gap seems to be unavoidable. Further, in the learning process, the teacher plays the role of director and evaluator; meanwhile, the student acts as the directed and evaluated. If both parties can cooperate seamlessly, the results will be positive. However, if the teacher plays the "traditional authority role", or "threatens the student with scores", then impediments to communication often develop between them. There are at least three ways to overcome teacher-student communication barriers (Liu, 1993; Wang, 1995; Chen, 1997). First, in addition to receiving different opinions respectfully, the teacher has to actively work to find common topics in order to build a consensus between them and their students. Secondly, teachers should employ exchanges analysis to understand better mutual expectations, and targeting different objectives in order to achieve the result of complimentary transaction and to avoid crossed transactions. Balachandran (2004) explained communication:

> In terms of simple transactions (exchanges between people), it says that if the message is from a certain ego state (S) of the sender to ego state (R) of the receiver, the response from (R) to (S) will be a complementary or parallel transaction. When transactions are complementary or parallel, communication will continue undisturbed. If the response is not from (R) to (S), but from any

other ego state, the two lines will cross each other. The transaction is then called a crossed transaction. It is an unexpected response. (¶ 4, 5)

Third, teachers must learn to listen carefully – it has been indicated that listening carefully or active listening, is an effective way to receive an authentic message, the essential element of the communication process.

Students' Perspective

According to Ginott's (1969) views in counseling, the researcher would extend his theory to cover the harmony between parents and children as well as teachers and students. He believed that like parents, teachers can construct and destroy children's self-concepts. His theoretical assumption is that if a tense and unstable atmosphere surrounds the student, his/her learning will be hindered greatly. Also, Claxton and Murrell (1987) suggested that a students' learning style could be defined according to the four dimensions: (a) personality, (b) information processing, (c) social interaction, and (d) instructional preference. In order to help students to be better learners, it is necessary to build a path of harmonious communication, and to assess whether the message communicated by the teacher suits the students' situation and the teachers' own feelings. This is the optional kind of harmonious and effective communication, which is conducive to building a healthy educational environment.

In addition to understanding individual differences, the teacher should adopt appropriate means and group activity techniques to augment the broadest range of educational goals. Under democratic leadership, there are more positive differences in learning than under autocratic or authoritarian leadership (Liu, 1993). It has been shown that democratic leadership increases student interaction, achievement, and personality

adaptation. Research has shown that authoritarian leadership is only beneficial to subjects when taught by the homeroom teacher; meanwhile, democratic leadership is beneficial to overall learning (Hsieh and Ker, 2003).

An Analysis of Teacher-Student Relationship

Chinese Parents' Perspective

Some Chinese proverbs say: "Being confined to my poor study room for 10 years, I stayed unknown. Now that I have passed the exam, I am famous all over the world," "The intellectuals are superior to other walks of life," and "Once you become an achieved scholar, you will be picked up for officialdom." Hence, since ancient times, Chinese people have believed that being a scholar and a student is loftier than being a government official or businessman. Also, most parents expect their children to be a "dragon" or a "phoenix". In ancient Chinese lore, a dragon is the symbol for a king and a phoenix is the symbol for a queen. Therefore, to be a dragon or a phoenix means that they wish high achievement for their son or daughter. Cutthroat competition among students is understandable, especially in star schools or first-rate institutions. In order for students to fulfill their parents' expectations, the school and teachers must work hand in hand to help individuals enter into higher education institutions. Traditionally, teachers have been the vendors of knowledge and students were encouraged to become almost machine-like when regurgitating information on examinations. The relationship between teachers and students has been the testing ground for stimulus and response interactions (Liu, 1993; Su, 1993; Chen, 1997). Furthermore, today because of the stiff competition in the promotion to higher education institutions teachers have become even more powerful.

Students' Learning Style and Process

Students are continually growing and developing. Teachers, who are professionals in education, must understand students' characteristics, different learning styles, and needs at different stages. Gardner (1983, 1999) proposed that classrooms in U.S. are too linguistically oriented and are not recognizing that there are many other types of intelligences. He suggested eight types of intelligences: (a) linguistics intelligence, (b) logical-mathematical intelligence, (c) musical intelligence, (d) spatial intelligence, (e) bodily-kinesthetic intelligence, (f) interpersonal intelligence, (g) intrapersonal intelligence, and (h) naturalist intelligence. Kolb (1984) further pointed out that the learning cycle involves four processes: (a) concrete experience, (b) reflective observation, (c) abstract conceptualization, and (d) active experimentation. Thus, it is necessary for teachers at various levels in school to understand students at different stages and different learning styles in order to avoid discordant relationships. Teachers are expected to have a thorough understanding of their roles and the school's educational objectives in order to facilitate harmonious teacher-student relationships.

Social Values

In traditional Chinese teaching, student possession knowledge seemed to merely be a mirror of the teacher's knowledge (Tsai, 2004). In a diversified society that is profuse with information, the students see that the teachers' viewpoints may not be the only ones. To be prepared for the 21st Century differentiated instruction is seen by researchers as encouraging students to reach their full potential (Chen, 2002; Tsai, 2004). Differentiated instruction is when teachers try to understand student abilities, capabilities and the reasons for students' behaviors in an effort to guide and help them learn at their

own level.

In China, an excellent teacher is considered to be an artist. If a teacher is considered excellent their teaching is valued as a highly prized piece of art. Transcending textbooks, an excellent teacher infuses their own personalities, interpretations, instruction, and other communications into their teaching. Chinese culture also holds that teachers must possess knowledge and content of the subject matter. Teachers must also have conscience, emotion, morality, and personality (Heck and William, 1999; Tsai, 2004).

The quality of teachers is the key to a successful educational system. The Teachers' Cultivation Act of Taiwan (1994) promulgated that there must be changes in the cultivation of teachers. The two major premises that were established to achieve this goal were (a) that more diversification was needed in the cultivation of teachers, and (b) that the establishment of a teachers' licensing system was necessary (Rao, 1995).

In Taiwan, the designs of the educational programs usually are not student-oriented. Furthermore, courses that can help students build up their professional knowledge are not common (Liang and Chiu, 2000). Traditionally in Taiwan, all courses were required. Students in the past were unable to sign up for elective courses, which may have been more suited to their interest. In addition, Liang and Chiu (2000) indicated that the inability of the system to meet individual needs and desires might damage the students' development of their professional know-how.

In a teacher's cultivation program, there are two major sections, subject knowledge and professional knowledge. Vocational education involves both the teaching of skills related to education and professional knowledge of a career field itself. At present, the education program emphasizes the instruction of special knowledge.

Meanwhile, professional knowledge is essential in vocational education, but is neglected (Huang, 1999). In the long run, the student trained in the vocational education system may become fundamentally professional, without any skills in practical work. According to Huang (1999), the vocational education teachers' program does not cultivate teachers with professional know-how.

Diversified teachers' cultivation seems to be a cheap education investment. But Chang (1997) found that diversified cultivation of education was a hindrance to the cultivation of ideals and excellent teachers. The major goal of teacher cultivation was only to create more educators. Nevertheless, Seaton (2002) stated "Education must extend its traditional goal of student mastery of subject-centered scholastic knowledge, to include the development of individuals who can prosper in complex and changing social, cultural and economic worlds" (p. 9). Thus, the hidden curriculum discussed above only manufactures more teaching technicians and not the well-rounded individual for the 21st Century.

Teaching is not a simple task; because there are multi-faceted aspects included in teaching quality, which Chen (1999) has indicated are extremely important. However, in an ever-changing teaching environment, the teachers' policymaking process and behavior to a certain degree does affect teaching quality.

Effective Teaching

Effective teaching is mainly evaluated through observing the teachers' teaching behaviors. It is widely believed that authentic teaching results in students' learning achievements. Authentic Teaching refers to learning that is genuine and connected rather than something that is fake and fragmented (Newmann and Wehlage, 1995; Newmann

and Associates, 1996). Likewise, teaching effectiveness can be evaluated through the students' learning behaviors (Lin, 2000). Effective teaching is further defined by the scope of the teaching.

French's study (1957) at the University of Washington suggests that the ten teacher qualities which contribute most to students' overall-judgment are:

> (a) interprets abstract ideas and theories clearly, (b) gets students interested in the subject, (c) has increased my skills in thinking, (d) has helped broaden my interests, (e) stresses important material, (f) makes work, (h) inspires class confidence in his knowledge of the subject, (i) has given me new viewpoints or appreciations, and (j) is clear and understandable in his explanations. (Cited in Costin, Greenough, and Menges, 1971, p. 514-515)

Education Week (1997) conducted an annual state-by state "report card" on public education in American. Education Week graded each state in four categories of achievement: " high academic standards and related assessments, a commitment to high-quality teaching, a school culture that supports teaching and learning, and adequate funding that is distributed equitably and spent wisely" (¶ 1). Thus, high-quality teaching is one of the prime educational qualities known to count in assessing educational institutions. Teaching effectiveness is the fundamental foundation of schools' educational goals. Furthermore, Follman (1995) purported that "There are two main criteria of teaching effectiveness . . . , pupil learning as demonstrated on standardized achievement tests, and also ratings by one or more of the four criterion groups, administrators, teachers themselves, their peers, and finally their pupils . . ." (p. 1). He also stated that " . . . students' ratings have been heavily used at the college level, . . ." (p. 2). Therefore,

students' ratings of educational instruction are often used to measure the effectiveness of teaching. It is one of the most important factors in creating an effective learning environment because the strong relationship between students and teacher is the relationship most frequently evidenced on campuses.

Shan (1995), in a Taiwanese study, declared that when a teacher is teaching, the four major factors are key: giving hints, participation, correction and feedback, and reinforcement of teaching results. Further, a teacher is expected to emphasize the quality of hinting, the learners' active participation, and reinforcement of the stimulus for hard work. Chang (1997) claimed that a teacher should be assured of his/her own capacity to learn, and ability to teach and achieve teaching goals. Chang (1999) suggested these positive attitudes and behaviors by teachers help elevate the students' learning achievements and help achieve the goal of effective teaching.

Johnson, Johnson, and Holubec (1998) demonstrated that teachers need not only academic but also social skills to maintain optimal teaching careers. Teachers should consider the following when contemplating effective teaching: (a) students' successful learning, (b) the pursuit of excellent teaching, (c) effective student evaluations, and (d) subsequent implementation of suggestions. This will result in teachers' accomplishing their goals and objectives. Teachers must also build a good class climate and culture to be effective (Shan, 1995; Lin, 1996). When analyzing effective teaching it is possible to discover the characteristics and criteria of that teaching, teaching performance that complies with particular requirements, and the standards that can serve as references for effective teaching (Lin, 2000).

Chang (1994) in the "Study of Elementary School Teacher Evaluation System"

concluded six points: (a) clarity, (b) diversification, (c) concern, (d) communication skills, (e) work orientation, and (f) classroom management and discipline were significant aspects to analyze when evaluating teaching. Chen (1997) pointed out that there are six aspects involved in effective teaching: (a) the teachers' self teaching concept, (b) systematic presentation of teaching materials, (c) diversification, (d) effective employment of teaching time, (e) creation of harmonious classroom atmosphere, and (f) establishment of harmonious teacher-students relationships.

Teaching is a complicated two-way process of instructing and learning. In the teaching process, a teacher should employ appropriate decisions and action to formulate effective teaching theory (Lin, 2000; Tsai, 2004). In fact, in the teaching behavior, a teacher should employ his/her preoperational knowledge to elevate his/her teaching ability (Hu, 2003). Through effective teaching performance, a teacher is able to elevate teaching quality (Chen, 1995; Ding, 2001; Hu, 2003).

Students' Ratings of Instruction

The Purpose of Students' Ratings of Instruction

Students' ratings of instruction analyze teaching performance from the students' viewpoint (Peterson, 1995). It is believed that successful learning by students is directly related to the quality of the teacher. This shows the pivotal role that teachers play in schools. A schools' success is related to its teacher quality, which includes the teachers' temperament, spirit, and personality, as well as knowledge, skills, and attitude (Lin, 2001). "Nothing of high quality, including school work, can be measured by standardized machine-scored tests" (Glasser, 1990). Centra (1979) asserted, "Faculty members are evaluated in order to decide whether they should be promoted or rewarded and to

improve their performance" (p. 1). Kerlinger (1971) believed "Evaluation is an integral part of instruction. Work and its outcomes have to be evaluated, whether formally or informally. . . . Teaching is incomplete, though not necessarily ineffective, without it" (p. 353). He suggested that an instructor can be evaluated by: (a) deans, (b) other professors, and (c) students. Jacobs (1987) demonstrated that "students' ratings were originally designed to provide information that would help instructors improve their teaching" (p. 1). Follman (1995) also assessed that ratings by their pupils was one of the criteria of teaching effectiveness. Consequently, Tetenbaum (1975) pointed out "At present, student evaluations are being used routinely as part of personnel decisions at a number of schools" (p. 418). Tierney and Bensimon (1996) demonstrated

> Departments have different ways of collecting data about teaching. . . . There are departments that depend entirely on the student evaluation forms . . . [They further point out that] Student evaluations based on a standardized form are included and are next in importance to the evaluation of teaching. Unquestionably the most important area of evaluation involves research and scholarship. (pp. 28 & 30)

All of these scholarly studies demonstrated that students' ratings of instruction are a major index of teaching. It is very important to improve the quality of instruction, as it is a major criterion of improving classroom effectiveness by instructors.

Iwanicki (1990) believed that

> Student evaluations have four purposes, which are: (a) accountability: to ensure that teachers teach efficiently in the classroom, (b) professional growth: to promote teachers' professional growth of not only new teachers but also veteran

teachers, (c) school improvement: to improve schools through better teaching qualities and lastly, to enhance students' learning performance, and (d) selection: to ensure schools to employ high quality teachers. (p. 158-174)

Teachers' student evaluations are a valuable procedure by which teachers' can better understand their performance from the perspective of their students. The major purpose of evaluation is to help improve the teaching, but it is also an important process to gauge and improve curriculum (Huang and Chang, 2001).

Glickman, Gordon, and Ross-Gordon (1998) suggested that summative and formative evaluations of instructional personnel are two broad categories of teacher evaluations. Teachers' evaluations can help ascertain teachers' merits and demerits in teaching, suggest ways to improve teaching quality, evaluate teaching results, and achieve teaching objectives. It can also serve as a reference for teacher in-service program planning and to assist them in developing their professional knowledge and skills.

The summative evaluation is an administrative function intended to meet organizational needs for teacher accountability and involves decisions about the level of a teachers' performance (Glickman, Gordon, and Ross-Gordon, 1998). It can help administrators to judge teachers' performances against fair standards for teaching performance. The summative evaluation serves as a reference for: teachers' employment, re-contract negotiations, determining wages, and encouraging brilliant teachers. Further, it can also serve as a means to discover the inadequately prepared or ineffective teachers.

On the other hand, a formative evaluation is intended to assist the supervisor in their oversight and encouragement for teachers in professional growth and improvement of teaching. This type of evaluation focuses on the needs of teachers rather than on the

organization's need for accountability (Glickman, Gordon, and Ross-Gordon, 1998).

American educators Beach and Reinhartz (1984) believed that the major purpose for a teacher's evaluation was to help teachers to develop professional skills and knowledge. They also concluded that the minor purpose or by-product of the teachers' evaluation was new teacher employment, dismissal of unqualified teachers, or to differentiate teachers' performances. Centra (1979) also pointed out "A faculty member's teaching, research, and other activities should be evaluated continuously to give that individual the opportunity to improve on weak points and build on strengths" (p. 1). Bayer (1973) suggested that faculty promotions should be based in part on formal student evaluations of their teaching.

Based on the abovementioned criteria, a few concepts concerning teachers' formative evaluation must be clarified: (a) evaluation does not equal an annual performance report, (b) evaluation will not be harmful to a teacher's dignity; on the contrary, it will further enhance their status, (c) evaluators should assist teachers in understanding his/her own teaching performances, (d) evaluations should allow for a teacher's self-evaluation because only the teacher his/herself has full and profound knowledge of his/her teaching practice, and (e) students' evaluations should be part of the entire course evaluation review. It is beneficial for students to provide the teacher with their opinions because they are the ones who have a close connection to the teacher and the teachers' teaching. It is the students who have a first hand response to the teachers' merits and demerits (Chang, 1993).

In order to allow the evaluation system to function effectively it should be a routine mechanism in all schools (Department of Vocational Education, Ministry of

Education in Taiwan, 2002). Evaluations not only help teachers grow in professional know-how and teaching quality, but they also fit into the requirement of social responsibility (Lin, 2000).

Students' Ratings of Instruction Methods

There are many studies that have indicated the best way that teachers are evaluated. In the following United State studies they have specified a number of these types of assessments. Loup, Garland, Ellett and Rugutt (1996) pointed out that according to a study conducted by Teacher Evaluation Practices Survey a teacher's evaluations included: formal observation, informal observation, teachers' self-evaluation, teachers' profile evaluation, peer evaluation, students' evaluation of the teacher, and written examination. Darling-Hammond and Wise (1983) included in their study the following methods: (a) teacher interviews, (b) performance tests, (c) indirect measurements, (e) classroom observations, (f) students' evaluation of their teacher, (g) peer reviews, (h) students' accomplishments, and (i) teachers' self-evaluations.

Shinkfield and Stufflebeam (1995) suggested the following methods of evaluation: (a) traditional impressionist method which is a judgment made according to the observer's (normally the principal) experience and perspectives in education, (b) at site inspections which are a continuous, cyclic, interactive, and democratic process to analyze the teachers' teaching practices through classroom observations, (c) research oriented checklists to compare and contrast the results one by one, (d) advanced logical judgment through training the evaluator to equip him/her with sufficient evaluation techniques and reliable judgments, (e) written tests which are used as references when entering the school, not for in-service evaluation, such as the all-nation teachers' test, (f) target

management which focuses on the achievement of the expected mutual target of both the individual and the organization within an appropriate time, (g) work analysis which analyzes goals and systematically requires adherence to teaching content evaluation standards, (h) theory orientation which measures teaching ability by students' achievements and teaching methodology, (i) students' results in learning which is the major variant in evaluation is a measurement of the progress the students made within the year (this method is widely supported in recent years), (j) students' evaluating teachers' teaching which is mainly used at the university level, (k) peer review which employs using other teachers to observe and evaluate a colleague, (l) self-evaluation which enables the teacher to discover his/her own merits or demerits, and (m) interviews which are used to encourage the teachers' professional development and to determine promotions, assignments, and dismissals.

Among the different kinds of student evaluation methods, student evaluations of teachers have proved most effective (Greenwood and Ramagli, 1980; O'Hanlon and Mortensen, 1980). Iwanicki (1990) deemed that effective student evaluations should include the following factors: (a) complete evaluation purpose, (b) specific evaluation standards, and (c) a proper evaluation process. Chang (2003) indicated "to elaborate the purpose of students' ratings of instruction, (a) the instrument of evaluation, (b) the process of implementation, (c) the application of result, and (d) the teacher's attitudes toward students' ratings of instruction are equally important" (p. 3).

Marsh (1987) developed nine factors on his research's instrument of Students' Evaluations of Educational Quality (SEEQ). They are: (a) learning/value, (b) enthusiasm, (c) organization, (d) group interaction, (e) individual rapport, (f) breadth, (g) exams, (h)

assignments, and (i) workload. The SEEQ is popularly used in American to evaluate teaching. Thus, schools generally accept these nine factors to evaluate teaching quality.

According to the American student evaluation system and adjusting adaptability to the Chinese culture and Taiwanese education environment, Huang (1999) developed nine factors of students' ratings of instruction for the Taiwanese colleges. They are: (a) teaching skills, (b) professional knowledge and preparation of courses, (c) enthusiasm and devotion of teaching, (d) learning performance of student, (e) material and content of courses, (f) question and discussion during class, (g) fairness of grading, (h) requirement of courses, and (i) synthetic evaluation.

The reason for the widespread use of student evaluations is that students could best evaluate the teachers because of their first-hand experiences. It considers that they should have the broadest and most profound interactions with the course content and teachers. Likewise, student evaluations are most effective when utilized at the university level, but are not suitable for students in elementary schools because of their low level of maturity (Wu, 2001).

Dewey (1902) advocated that education is growth. Through education a teacher can self-evaluate and reflect on his/her own behaviors. With the help of profiles related to his/her growth and development, a teacher can be reflective and pursue further improvements. Therefore, tools such as profiles are ideal tools for reflective learning and evaluation.

A teacher's process of becoming a professional can be regarded as the teachers' socialization process to a working environment. Yang (2000) pioneered a study of the socialization of teachers that believed their socialization began with student-teacher

interactions and these interactions helped teachers internalize ideas about education. Pre-job cultivation can help an individual acquire professional knowledge and internalize professional attitudes. In the training processes, through practical work, the evolving professional can feel the influence of the professional group and their peers, such as other teachers (Lortie, 1975). These interactions can help them to acquire essential concepts about professional performance. The major purpose of evaluating teaching is to evaluate a teachers' performance and to provide a reference in career planning and in developing excellent teaching pedagogies (Huang, 2002; Chen, 2002).

Model of Effective Teaching Evaluation

Evaluation is the process of collecting data in order to make the best possible judgments and decision for the teachers, schools, students and society (Wang, 2005). According to Wang (2005), teachers should receive continuous evaluations and encouragement to improve teaching styles, to learn new pedagogies, to help meet the individual needs of students, and to grow professionally.

In Chinese tradition, teachers hold a lofty position, rendering professional evaluation difficult because of the traditional hands-off stance (Tsai, 2004). Further, the undervaluing of the process and results, by educational institutions compounds this assessment and makes the execution of evaluation difficult.

Many teachers resist being evaluated (Huang, 2002). There are misunderstandings about many aspects of evaluation, which lead to unexpected problems during the evaluation process. Before any evaluation is conducted, it is beneficial to orient the teachers to the evaluation process. Through the means of conversational meetings mechanisms or establishment of related seminars, the administrative body should

communicate with the teachers continuously to establish mutual understanding (Huang, 2002).

Each teacher should develop a teaching plan, establish personal teaching information networks, plan professional career goals, and prepare an academic and career growth profile (Shan, 2000). She believed that profile building is a lengthy process, which is conducted through long-term information collecting, teaching observations, discussions, and demonstrations. Thus the institution/school should give support and assistance to the teachers to facilitate and ensure the evaluative procedure.

Teachers' Attitude Toward Students' Ratings of Instruction

> Entire students' ratings of instruction system should include the instrument of implementation, the process of implementation, teachers and students' attitudes toward the results, and applying of the results. As a result, a perfect instrument, exact process of implementation, cooperative attitudes of students and teachers, and appropriate applying of the results are the major factors of a successful system of students' ratings of instruction. (Tsai, 1989, p. 22-23)

Rich (1976) investigated the teachers' attitudes toward students' ratings of instructions within different kinds of institutes of higher education in California. He found that teachers in research-oriented schools were more able to accept and favorably implement student suggestions than teachers in teaching-oriented schools. Thus, teachers in different kinds of schools, such as in universities, teacher colleges, colleges of technology, and junior colleges, may have different attitudes toward students' ratings of instruction (Chang, 2003; Huang, 2002). Also, Chang (2003) indicated:

> The evaluation instrument, evaluation process, and application of results is very

> important for students' ratings of instruction. Teachers' attitudes toward students' ratings of instruction should not be disregarded either. The teachers must accept the evaluation policy, using the results to actively improve their own teaching. Thus, teachers' attitudes are the key factor to success for students' ratings of instruction policy. (p. 10)

Positive Viewpoints of Evaluation

Costin, Greenough, and Menges (1971) pointed out that students' ratings of instruction could provide: (a) feedback which the instructor might not be able to elicit from students on a face-to-face basis, (b) departmental and college-wide norms against which individual faculty ratings could be judged, (c) a way in which a faculty member could demonstrate his teaching effectiveness to those who have expressed an interest in evaluation as a parameter for salary increase, (d) information of the areas of relative strengths or weaknesses in teaching, (e) suggested avenues for the development of new courses or programs, (f) evaluation information and norms on the various new programs which are implemented, and (g) provision to the students of a source of information to aid them in the selection of courses.

Jacobs (1987) concluded in his research: "Both faculty and students generally have positive attitudes toward the evaluation of faculty by means of students' ratings" (p. 14). He indicated that the students' ratings reported teacher characteristics such as preparation for class, communication skills, enthusiasm for teaching, and interest in students. Also, Chang (2003) conducted his research within Taiwanese 11 universities, and he concluded that "teachers believe that the major purpose of students' ratings of instruction is to provide an opportunity of self-evaluation and furthermore to stimulate

self-improvement" (p. 12).

Schienker and McKinnon (1994) believed "Students' ratings of teacher performance has several purposes: (a) to provide data for improving teaching, (b) to provide data for evaluating faculty performance, (c) to aid students' choices of courses and professors, and (d) to stimulate students to think about their education" (p. 18).

Positive viewpoints of evaluation can provide diverse information for teachers to evaluate, adjust, adapt and improve teaching skills. These viewpoints also help to create a positive classroom culture and climate to improve the atmosphere for students to learn.

Negative Viewpoints of Evaluation

Some teachers resist the students' ratings or the instructions for the process because: (a) many rating forms have been prepared by groups or individuals not highly qualified to construct such instruments, (b) students' ratings may be unreliable, (c) the ratings can be highly correlated with expected grades, and (d) it sufficiently rewards good research, but not good teaching. (Costin, Greenough, and Menges, 1971)

Schienker and McKinnon (1994) suggested that students' ratings of teaching have several cautions that need to be considered:

> (a) their use can negatively impact education if they generate anxiety of conflict on the part of faculty or students, (b) students' ratings should only be used in conjunction with multiple measures of faculty performance, (c) when student evaluation of instruction is used to compare between teachers of one instructors performance in different courses, the results should be interpreted across similar course levels, and where appropriate, class sizes. (pp. 18 &19)

Several scholars in Taiwan found that teachers who take teaching seriously do not

always get high scores in the students' ratings of instruction (Liao, 2000; Huang, 2002; Chang, 2003).

Negative viewpoints of evaluation may cause teachers to give students higher grades. Students in turn would also give them high scores. Huang (2002) found that an "associate professor tended to give students higher grades and tended to lower their requirements for courses in order to get higher scores on students' ratings of instruction" (p.284). Chang (2003) also indicated that "some teachers do lower the requirements for class when a policy of students' ratings of instruction is implemented" (p. 21).

Current Situation of Students' Ratings of Instruction in Taiwan

Background

The Ministry of Education in Taiwan began to evaluate the universities in 1975 to enhance the educational quality of universities in Taiwan. The Bureau of Higher Education, Ministry of Education in Taiwan brought up some specific policies in March 1998. To build a teaching quality control system is one of the most important of the new education reform policies. In May 30, 1998, the Ministry of Education contacted each university to enforce the teaching evaluation method. The Ministry of Education created the regulation that the teaching and service to the institution will be 20% of the teachers' performance evaluation when teachers need to upgrade. After these changes, each teacher and school valued teaching evaluations, especially the students' ratings of instruction. (Zhou, 2003, p. 51)

Implementation of Students' Ratings of Instruction in Taiwan

Timing of Implementation

In Taiwan, the earliest implementation of students' ratings of instruction at universities occurred in 1966 at Tamkang University, a private school. The earliest implementation of students' ratings of instruction in a public university was at National Tsing Hua University in 1982 (Ye, 1987). There were 115 universities and colleges in Taiwan in 2000. Chang (2000a) conducted his research within those 115 schools. He found that 21 schools had a students' ratings instruction system in 1990, and one year later, 93 schools, or an increase of 80.9%, had students' ratings of instruction. In 2000, according to Chang (2000a), 80% of public colleges of technology, and 78.9% of private colleges of technology had students' ratings of instruction. Therefore, in most schools the system of students' ratings of instruction is relatively new. The highest implementation to date has been in private universities. The lowest implementation has been in private colleges of technology (Chang, 2000a).

Lee's research indicated "some problems with student evaluations conducted in Taiwanese vocational technology colleges are: (a) the evaluation system exists in name only, therefore cannot be used to improve teaching quality, (b) the evaluation system is not mature yet; method and content need to improve" (p. 2). He also suggested that each college of technology should enhance the students' evaluations policy to make sure high teaching quality is maintained (2003).

The System of Students' Ratings of Instruction

There were 127 universities and colleges in Taiwan in 2000. Chang (2000c) researched 32 universities and 44 colleges about the systems regarding the students'

ratings of instructions in 2000. He found that 44.7% of schools implemented the students' ratings of instruction after the 1997 academic year. However, 17.1% of schools still had not implemented the system entirely for all teachers by 2000. Furthermore, he discovered that by 2000 82.9% of universities and colleges in Taiwan had implemented the students' ratings of instruction. However, 39.5% of those schools do not have any policies or regulations regarding the students' ratings of instruction, they conduct these evaluations yearly regardless (Chang, 2000c).

Instrument of Students' Ratings of Instruction

Chang (2000c) researched 76 universities and colleges in Taiwan. Chang (2000c) found that 60.5% schools designed their own instrument of students' ratings of instruction by the department of study, 5.6% schools designed by their individual department, and 11.8% schools were designed by the teachers assessing committee. Each school had their own instrument of students' ratings of instruction. Chang (2000c) discovered that approximately 92.1% of the schools using students' ratings of instruction do not have student representatives participating in the development of the students' ratings instruments. Less than 50% of these schools test the reliability or construct validity of their students' ratings instruments and 80.3% of the schools use a school-wide instrument.

Applying the Results of Students' Ratings of Instruction

Chang stated:

> The main purpose of students' ratings of instruction is as reference of instruction improvement, but only 86.8% of the schools provide the results of students' ratings of instruction to individual teachers. The results of students' ratings of

> instruction can be a reference to facilitate personnel decisions. One of the personnel decisions is whether or not to reward teachers based on the results of the students' ratings of instruction. Only 34.2% of schools use the results of students' ratings of instruction as a reference in the granting of merit reward. (Chang, 2000c, p. 19)

"Only 30.2% of schools use the results of students' ratings of instruction as a reference for re-hiring. Nevertheless, [Chang found that] 61.8% of schools used the results of students' ratings of instruction as a reference for teachers' upgrades" (Chang, 2000c, p. 20).

Chang (2000c) suggested that "the main purpose of students' ratings of instruction is as reference of instruction improvement" (p. 19). However, several schools never use the result of students' ratings of instruction as a reference for re-hiring, upgrading, or any employment decision. Moreover, some schools in Taiwan never give the results of students' ratings of instruction to individual teachers.

Teachers' Attitudes Toward Students' Ratings of Instruction in Taiwan

In Particular Schools

There were 28 department deans and 170 faculty members at Tamkang University in 1986. Chen (1986) used stratified random sampling of eight deans and 24 faculty members to conduct research with 19 close-ended questions and 25 open-ended questions. She generated the following conclusions:

(a) Students have the ability to evaluate teachers teaching skills, material organization, exams and grading, and teacher-students relationship, (b) students do not have ability to evaluate teachers' professional knowledge, (c) 30% of teachers never pay

attention to the results of students' ratings of instruction, (d) only 25% of teachers thought that students' ratings of instruction are helpful for improving teaching, (e) 38% of teachers believe that students' ratings of instruction can enhance the teaching standard, and (f) 70% of teachers do not agree that students have ability to evaluate teachers.

Tsai (1989) conducted research by analyzing interviews of the teachers concerning students' ratings of instruction in the National Central Police-Officer University in Taiwan. She found in her research:

> More than half of students and teachers thought that the content of students' ratings of instruction should depend on the subject. They also believe that students' ratings of instruction should be designed by experts in each particular disciplinary field. In the content of students' ratings of instruction, teachers are more concerned about teachers' expert knowledge, teaching skills, teaching material, and organization. Teachers believe that the students' learning attitudes, relationship between teachers and students, and grades or assessments should not be included. On the other hand, students are more concerned about teachers' expert knowledge, teaching skills, and teachers' personal character. Students are less concerned about their learning attitudes, grades or assessment, and teachers' teaching objective. More interesting is that more than half of the teachers report that they will use the results of students' ratings of instruction to improve their teaching, but only two-fifths of students believed that teachers actually use these results of students' ratings of instruction to improve their teaching. Nine-tenths of teachers report that they have a strong willingness to be evaluated by their students again. However, only three-fifth of the students queried said they would

like to perform the students' ratings of instruction again. (p. 112-114)

Comparison Among Higher Education in Taiwan

There are 16 universities in Taiwan in 1987. Ye (1987) conducted research on teachers' perspectives toward students' ratings of instruction within nine universities. He used non-random purposeful sampling to choose the schools. Two universities have implemented the system and seven universities did not implement the students' ratings of instruction in his research. There were 3,681 faculties in the nine universities. Ye (1987) sent 2,210 samples by the stratified sampling method. Ye got 1,010 valid returns of the questionnaires with an overall valid response rate of 45.7%. He discussed the following conclusions from his data:

> (a) Elder teachers, faculty with long teaching seniority, and those having only minimum academic degrees have a negative perspectives toward the students' ratings of instruction, (b) private universities pay more attention to the reasons, content, and application of students' ratings of instruction compared with public universities, (c) teachers in teacher universities or science and engineering universities have more positive attitudes toward the students' ratings of instruction, (d) associate professors care more about the why, what, and by whom of the implementation of students' ratings of instruction, (e) teachers serving in the administration have more respect for the students' ratings of instruction, (f) female teachers are more concerned with the content of students' ratings of instruction and how to implement them, male teachers are more concerned with them as references for personnel decisions, (g) the successful implementation of students' ratings of instruction depends on complete and perfect planning and be

implemented based upon objective processes. (p. 422-423)

Chang (2000a) conducted his investigation within nine teacher colleges in Taiwan. He mailed the questionnaire to a systematic sample of 100 faculty members from each of nine teachers colleges in Taiwan during the spring of 1999. He also mailed the questionnaire to a systematic sample of 120 students from each of nine teachers colleges in Taiwan during that same spring of 1999. His investigation was a study to compare the difference in attitude toward the students' ratings of instruction among 456 faculty members. His questionnaire had an overall response rate of 51.2%. His study of 954 students had an overall response rate of 89.0%. He made conclusions from his research as follows:

> (a) All instructors should accept the students' ratings, (b) the current students should be the raters, (c) faculty evaluation committees should be responsible for developing the evaluation form, (d) instead of a college-wide evaluation form, a department-wide evaluation form should be used for students' ratings, (e) the best time to implement students' ratings is at the end of the semester, (f) the evaluation process may take place in the classroom, and (g) the classroom chairperson should be the one to take charge of the evaluation. (p. 51)

Huang (2002) made an investigation regarding the faculties' idea of students' ratings of instruction in nine technical universities. Twenty-five faculty members were sampled at each of nine technical universities in Taiwan during the spring of 2001. However, Huang sampled 40 faculty members at each of two technical universities in his study because these technical universities had more teachers. There were 11 technical universities in Taiwan in 2001. Due to missing data, the valid sample elicited an overall

response rate of 59.3% (*N*=305). Huang generated the following conclusions:

> (a) Teachers believe that the students' ratings of instruction are necessary, (b) the difficulty or simplicity of a subject will influence the results of students' ratings of instruction, (c) teachers who take teaching seriously do not always get high scores in the students' ratings of instruction, (d) teachers do not agree that the school should use the results as a references for employment decisions, (e) teachers do not believe that students answer the question on the students' ratings of instruction very carefully, (f) associate professors agree that if they give students higher grades students in turn would also give them high marks, (g) academic specially will not alter a teacher's perspective of students' ratings of instruction, (h) business teachers when compared with science and engineering teachers agree more that the results of the students' ratings of instruction can help to improve teaching, and (i) teachers who have taught between 11 and 15 years compared with teachers who have taught less than five years agree more that students' ratings of instruction should include teaching methods. (p. 284)

Chang (2003) conducted an investigation regarding teachers' attitudes toward students' ratings of instruction in 2001 within 11 universities in Taiwan. After an overall validate response rate of 49.5% (N=1100), he found the experimental importance for the five factors of his research within universities' teachers as:

> 1. Object. The purpose of students' ratings of instruction: motivate teachers to improve teaching, provide the opportunity of democratic training for teachers and students, support teaching communication between teachers and students, and provide teachers the opportunities for self-evaluation.

2. Level of value. Individuals value the results of students' ratings of instruction and will improve teaching according to the results.

3. Content. University teachers believe that teaching method, entire teaching evaluation, teaching material, entire subject evaluation, students self-evaluation, evaluation of students' performance of learning, teacher-student relationship, character of individual teacher, and students' grade should be included include in the content of students' ratings of instruction.

4. University teachers believe that a good teacher may not get a high score on the students' ratings of instruction.

5. Universities' teachers agree that the results of students' ratings of instruction should be communicated to the teacher individually for the reference of improving personal teaching. University teachers disagree that the results of students' ratings of instruction can be announced. (P12-14)

Summary of Literature Review

In Taiwan, many studies have been conducted on the topic of students' ratings of instruction. However, the evaluation system is not yet firmly established, existing in name only (Lee, 2003). There are few well-organized professional teacher evaluation systems. Some schools have developed an evaluation to be used on a trial basis. Many teachers however, doubt the fairness of these systems. It is necessary to establish a reliable evaluation system that can assess the teachers' professional quality through their practical work. Furthermore, the system should be integrated and synthesized by the educational authorities to gain professional status for the teachers by offering credibility to the teachers' specialties (Chang, 2000b).

Although students' ratings of instruction have been practiced in Taiwan for many years, they mainly focus on teachers' annual service evaluations, neglecting those regular periodic evaluations that could help improve teaching quality by providing teachers information regarding their teaching strengths and weaknesses. Currently, the practice of student evaluations guarantees only a promotion and advancement for every teacher. Even worse, there are distortions and misunderstandings concerning the meaning and objectives of the evaluation system. It is necessary that we rectify this wrong (Chang, 1993). Evaluation results can also be helpful in planning for in-service trainings to assist teachers' continual growth (Lin, 2000).

In summation, from the above literature, it can be deduced that the system of students' ratings of instruction in Taiwan is not very new. However, the students' ratings of instruction implementations among the colleges of technology are very new because of the educational reform in Taiwan. This is true because most colleges of technology were reorganized or newly established after educational reform. Nonetheless, most university, technical university, and teacher college teachers agree and support the implementation of the students' ratings of instruction. Students have different perspectives than teachers regarding the students' ratings of instruction. Different academic backgrounds, such as teachers having masters or doctorates, different positions, such as associate professors or lecturers, different majors, such business or science and engineering, may have different perspectives regarding the students' ratings of instruction.

CHAPTER THREE

METHODOLOGY

Introduction

The Taiwanese government began to implement national education reform in 1996. The number of higher education schools increased rapidly after reform was initiated. From the 1997 to the 2002 academic years, the total number of colleges grew from 40 to 78, for an increase of 95%. Universities increased in number from 38 to 61, or a 60.5% increase. The total number of students in 2002 was 893,045, a 111.5% increase from 1997 (Bureau of Statistics, Ministry of Education in Taiwan, 2004d).

Following the increase of the number of higher educational schools and students, teaching quality became a matter of widespread concern (Lin, 1998; Huang, 2000; Ma, 2001; Xu, 2001). Students' ratings of instruction were implemented on a nationwide scale as an important component of improving teaching quality. This study was designed to determine and characterize college of technology faculties' attitudes toward students' ratings of instruction.

The review of literature found that 82.9% of Taiwanese universities had implemented students' ratings of instruction by the year 2001. However, 39.5% of those schools do not have any policies or regulations regarding the students' ratings of instruction (Chang, 2000c). As a result of this finding, this study included a quantitative research component that inquires whether the existence of school policy or regulation regarding students' ratings of instruction is associated with faculties' attitudes toward students' ratings of instruction.

The review of literature also found Chang conducted research regarding university teachers' attitudes in 11 schools toward students' ratings of instruction in Taiwan in 2001 (Chang, 2003). This study included a comparison of its findings with Chang's research.

Research Design

In this study, college teachers were given a questionnaire regarding attitudes toward the students' ratings of instruction. The questionnaire was used to determine faculties' attitudes toward students' ratings of instruction based upon their perceptions of the student evaluation process, various demographic variables, and the presence/absence of policy or regulation regarding students' ratings of instruction. The same questionnaire was used by Chang in 2001 to determine faculties' attitudes toward students' ratings of instruction in 11 universities in Taiwan in 2001.

Population and Sample

The review of literature revealed that there has been limited research on faculty attitudes toward student evaluations in 11 universities; however, there is no similar research in colleges of technology. Consequently, the population of faculties for this study was those who are employed in the colleges of technology in Taiwan. According to the Bureau of Statistics, Ministry of Education in Taiwan (2003b), there are 56 colleges of technology that were upgraded or newly established from 1998 to 2002. The population for this study consisted of all faculties who are full-time faculties in those 56 colleges in the fall of 2004. The number of faculties in those 56 colleges is presently 12,473 (Bureau of Statistics, Ministry of Education in Taiwan, 2004c).

A list of colleges of technology were determined and randomly sampled based

upon stratification into four areas, north, middle, south, and east. There are 21 colleges, 4,825 full-time faculties in north region, 12 colleges, 2,783 full-time faculties in middle region, 18 colleges, 4,161 full-time faculties in south region, five colleges, 704 full-time faculties in east region.

Of these colleges, 21 were chosen to participate in this study based upon a proportionate distribution of faculties. This configuration resulted in eight colleges in the north region, four colleges in the middle region, seven colleges in the south region, and two colleges in the east region. From these 21 colleges, a sample of 840 faculties was chosen randomly for this study. The number of faculties in each area was based on the ratio of total faculties in each area. Thus, approximately 320 faculties for eight colleges were chosen in north region, 160 faculties for four colleges were chosen in middle region, 280 faculties for seven colleges were chosen in south region, 80 faculties for two colleges were chosen in east region. Table 5 showed the number of total colleges, total faculties, sampling faculties, and sampling colleges in each area.

Table 5

Number of Colleges, Faculties, Sampling Faculties, and Sampling Schools in Each Area

Area	Total Colleges	Total Faculties	%	Expected Sampling of Faculties	Sampling Of Colleges	Actual Sampling of Faculties
North	21	4,825	38.7%	325	8	320
Middle	12	2,783	22.3%	187	4	160
South	18	4,161	32.7%	274	7	280
East	5	704	6.3%	53	2	80
Total	56	12,473	100.0%	840	21	840

According to Chang's (2003, 2000c) and Huang's (2002) research, the useable return rate of questionnaires in Taiwanese higher educational schools was around 50%. Thus, it was anticipated there would be approximately 420 useable samples from the original 840 sent out. Krejcie and Morgan (1970) suggested that when the population size was around 15,000, the minimum sample size should be approximately 375. The population size in this study was 12,473; therefore, a 50% return rate on 840 samples would provide sufficient sample size.

Procedure

The 56 colleges were stratified and the appropriate number randomly selected from each geographical area. The Dean of Studies from each selected college was asked to assist in the random selection of faculties. The deans were asked to assign a number to all faculties in their respective schools. A random list of numbers appropriate to the

number of faculties sampled in each school was given to the deans, whereupon their faculties with matching numbers were selected as the random sample for this research.

The Dean of Studies in each school distributed the research packets to the chosen faculties. Each packet contained a form explaining the research and its importance to Taiwan Educational Reform, the University Teachers' Attitudes Toward the Students' Ratings of Instruction Survey, and a self-addressed, stamped envelope. Different areas used different colors of paper for the questionnaires in order to provide for further analyses based upon geographical differences. The names of faculties who have been selected were identified only on the list of faculties the Dean of Studies in each school had on hand. Each dean was required to destroy the list as soon as questionnaires were distributed. Each dean signed a statement and returned it to the researcher stating that the list of faculties who have been selected had been destroyed and that no copies existed. There was no school or faculty's name on any of the data collected. Each faculty anonymously mailed the questionnaire back to the researcher in the self-addressed, stamped envelope provided in the packet.

Instrumentation

The survey for this study was conducted by a questionnaire that is named "University Teachers' Attitudes Toward the Students' Ratings of Instruction Survey" (Chang, 2003, p. 10). The questionnaire was designed by Te-Sheng Chang in 1999. The questionnaire was based on existing literature throughout the world including semi-structure interview data that was conducted by Te-Sheng Chang. The outline of the questionnaire was modified by three psychologists, three experts experienced in drafting questionnaires, three experts of teaching, and three experts of language and literature.

After that, the questionnaire was further modified according the results of pre-testing by 20 faculties in teacher colleges (Chang, 2000c, p. 11).

There are two parts in the questionnaire. The first part was the demographic information of the faculties who completed this questionnaire. The second part asked for the faculties' attitude toward students' ratings of instruction. There were 18 questions in the first part. Each question consists of a multiple-choice format. There were 35 questions in the second part. It had 34 close-ended questions that were conducted with a 5-point Likert scale ranging from "strongly agree" (5-point) to "strongly disagree" (1-point), and an open-ended question for an overall item, question 35. Question 34 was a general question regarding faculties' attitude toward students' ratings of instruction. Question 1 to 33 included five issues. The five issues were: (a) the object of students' ratings of instruction, (b) the level of value toward the students' ratings of instruction, (c) the content of the students' ratings of instruction, (d) negative affection of the students' ratings of instruction, and (e) application of the results of the students' ratings of instruction.

Variables and Levels of Data

The primary variable in this research was the attitude score calculated by the *University Teachers' Attitudes Toward the Students' Ratings of Instruction* Survey. These scores were calculated in the manner used previously by the survey's author and provide ordinal level data. This was necessary in order to compare this research to previous research using the same instrument. In addition, the attitude scores also were calculated according to frequencies and if appropriate, further analyses were conducted using interval data provided by the frequencies. Other variables gathered were demographic

and of the interval/ratio level.

Null Hypotheses

Definitions of Experimental Importance and Consistency

For the comparison with previous research, each of the null hypothesis, where appropriate, experimental statistical consistency was defined at the $\alpha = .05$ level and experimental importance was defined as a 5% difference between frequencies of positive/negative attitudes toward students' ratings of instruction. Experimental importance for predictability was set at 70%.

Null Hypothesis 1

H_{0_1} : There was no experimentally important or consistent difference or predictability among college of technology faculties' attitudes toward students' ratings of instruction based upon demographic variables.

Statistical procedure. The chi-square test of independence and/or discriminate function analysis was used in testing this null hypothesis. Computer software was used for the calculations.

Null Hypothesis 2

H_{0_2} : There was no experimentally important or consistent difference or predictability among faculties' attitudes toward students' ratings of instruction among colleges of technology based upon the presence or absence of school policy or regulation regarding the students' ratings of instruction variable.

Statistical Procedure. The chi-square test of independence and/or discriminate function analysis was used in testing this null hypothesis. Computer software was used for the calculations.

Null Hypothesis 3

H_{0_3} : There was no experimentally important or consistent difference between college of technology faculties' attitudes and university teachers' attitudes toward students' ratings of instruction.

Statistical Procedure. The mean on each question, standard deviations and ranges of observations for the variables were reported in testing this hypothesis to compare with previous research. If there was any differences the frequency of different responses on each question was analyzed. Computer software was used for analysis.

Internal Validity

The threats to internal validity were history, maturation, testing, instrumentation, statistical regression, and mortality and were controlled by the research design of this study for the first two null hypotheses. However, the threat to internal validity of selection was not controlled in this research due to the utilization of intact groups without the ability to manipulate groups or variables. The internal threat of history may result in differences found in the third null hypothesis, though the findings still were meaningful based upon differences resulting from history.

External Validity

External validity was controlled by random selection of schools, random selection of faculties, and sufficient sample size.

A Priori Considerations

The assumption of normality was met by having sufficient sample size of approximately 420 to 840.

Delimitations

The Taiwanese government formed The Education Reform Consideration Committee in the Executive Yuan of Taiwan on September 21, 1994. This committee published its Final Recommendation for Education Reform in Taiwan on December 2, 1996. Thus, this study only researched those colleges that upgraded or were newly established after 1997.

This study focused exclusively on the colleges of technology for reasons previously cited. However, these findings were compared with the Chang (2000) research results that discovered the faculty and student attitude toward students' ratings of instruction in all Taiwanese faculties' colleges in 1999.

Colleges that were reorganized or newly established from 1998 to 2002 but renamed as technical universities after 1998 were not the subject of this research. There are 13 colleges, five public colleges, eight private colleges renamed into technical universities after they reorganized or newly established and are not researched at part of this study.

This research focused on full-time faculties. Part-time faculties were not included in this research.

Limitations

Vocational education systems and regular education systems are different educational systems in Taiwan. Both have different educational goals. The faculties in those different education systems have inherently different teaching materials, teaching methods, and teaching goals. This difference may alter or limit the interpretation of the comparison of vocational and other schools of higher education.

CHAPTER FOUR

RESULTS

Introduction

To meet the needs of the 21st Century, Taiwanese government implemented education reform. Higher education in Taiwan has experienced rapid growth following education reform, especially in the vocational education system. Quality management of higher education is the major issue for coming education reform projects (The Control Yuan in Taiwan, 2004). According to the United Evening News in Taipei (September 10, 2004), until 2007, the Ministry of Education in Taiwan will require 50% of the universities and colleges to implement the evaluation of teaching. Student rating of instruction is one method of evaluating teaching. Traditionally, Chinese students never challenged their teachers; however, students are now allowed to evaluate their teachers.

The purpose of this research was to determine and characterize colleges of technology faculties' attitudes toward the students' ratings of instruction. The research findings within this chapter have been presented in two parts: the statistical results of this research are reported, followed by a comparison of this research done in colleges of technology with the similar research done by Chang in universities in 2001.

The survey for this research was conducted by a questionnaire entitled, "University Teachers' Attitudes Toward the Students' Ratings of Instruction Survey" (Chang, 2003, p. 10). Te-Sheng Chang designed this two-part questionnaire in 1999. The first part consisted of the demographic information of the faculties who filled out this questionnaire. The second part asked for the faculties' attitudes toward students' ratings of instruction.

The first part contained 18 questions with each question having a multiple choice format. The second part of survey was composed of 35 questions. Of those 35 questions, 34 were closed-ended questions and were scored with a 5-point Likert scale ranging from strongly agree (5-points) to strongly disagree (1-point) while one question was open-ended. Question 1 through Question 33 surveyed five issues. They were: (a) the object of students' ratings of instruction (1 – 7), (b) the level of value toward the students' ratings of instruction (8 – 12), (c) the content of the students' ratings of instruction (13 – 21), (d) negative effect of the students' ratings of instruction (22 – 27), and (e) application of the results of the students' ratings of instruction (28 – 33). Question 34 was a general question regarding the faculties' attitudes toward students' ratings of instruction.

Statistical Analyses

Return Rate

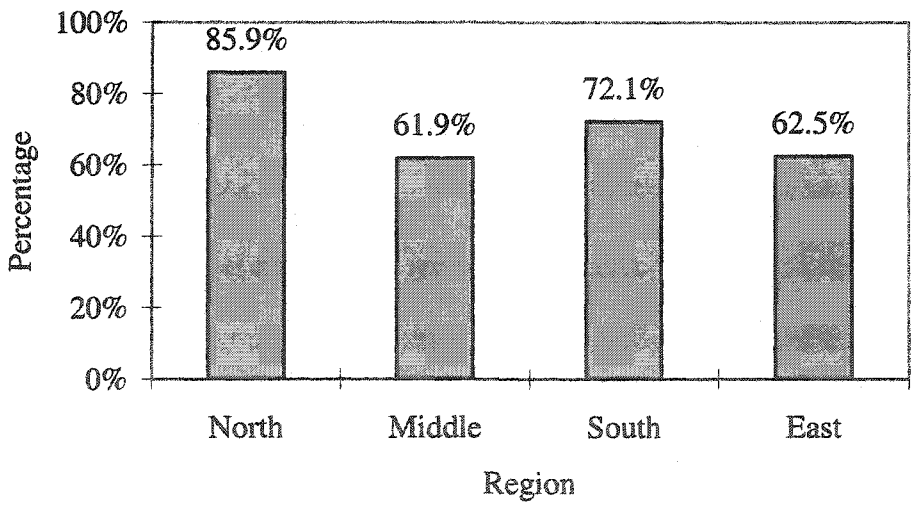
This research surveyed 21 colleges of technology in Taiwan during the fall of 2004. In each college, 40 faculties received the questionnaire. The total return was 630 questionnaires, however, four returns were too incomplete to be utilized. Therefore, a total of 626 faculties' responses provided a 74.5% response rate. Specific statistical calculations have total sample sizes that vary between 617 and 626 reflecting occasional incomplete responses for a given question. Table 6 and Figure 2 address the distribution and respondents of sampling by the region.

Table 6

Sampling Demographic by Region

Area	Sampling Colleges	Sampling Faculties	Return	Return Rate
North	8	320	275	85.9%
Middle	4	160	99	61.9%
South	7	280	202	72.1%
East	2	80	50	62.5%
Total	21	840	626	74.5%

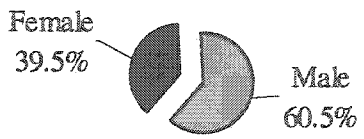
Figure 2 Respondents' Sampling Based upon Region



Gender, Age, Academic Degree, and Professional Rank

The sample consisted of 376 male faculties (60.5%) having an average age of 44 years old, and 246 female faculties (39.5%) having an average age of 42 years old. Figure 3 represents the frequency distribution of respondent gender for this research.

Figure 3 Percentage of Frequency Distribution of Respondents by Gender



Within both male and female categories, the average teaching experience in their present position was two years. The professional composition of the sample consisted of 20 professors (3.2%), 122 associate professors (19.6%), 92 assistant professors (14.8%), and 389 lecturers (62.8%). Figure 4 specifies the number of respondents by professional rank.

Figure 4 Frequency Distribution of Respondents by Professional Rank

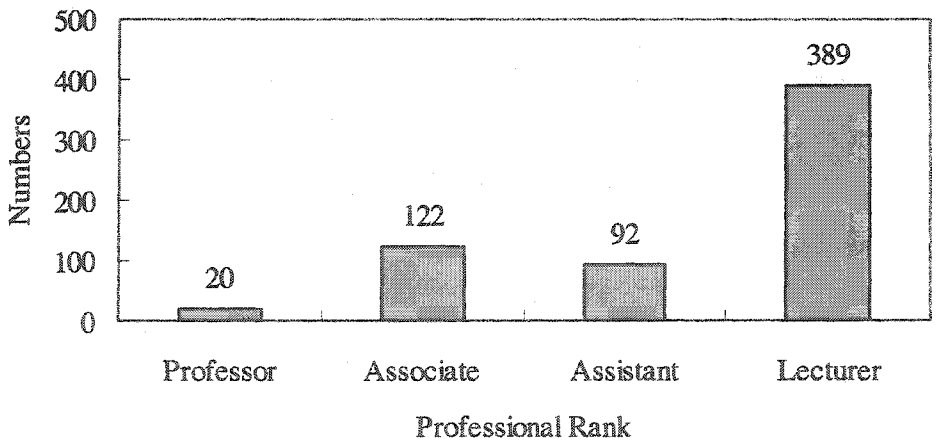
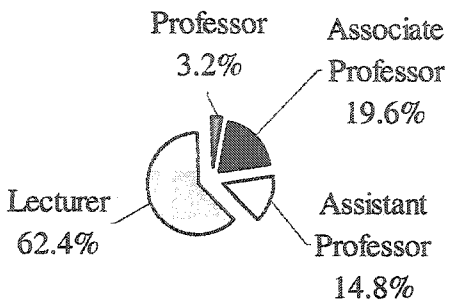


Figure 5 specifies the percentage of frequency distribution of respondents by professional rank.

Figure 5 Percentage of Frequency Distribution of Respondents by Professional Rank



All of the information for Figures 4 and 5 is reported in Appendix E.

Table 7 enumerates the number and percentage of each level of faculties in universities and colleges in Taiwan (Bureau of Statistics, Ministry of Education in Taiwan, 2004c). Compared with universities, colleges had lower professional rank.

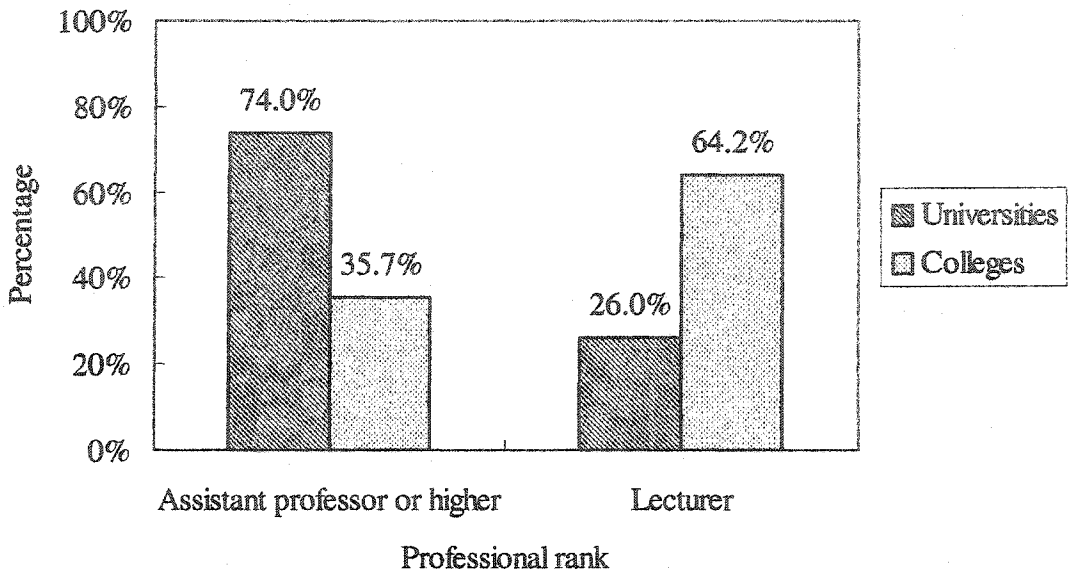
Table 7

The Number and Percentage of Faculties in Universities and Colleges of Taiwan

School Level	Professor		Associate Professor		Assistant Professor		Lecturer		Total Faculties
Universities	6,405	25.6%	7,946	31.7%	4,198	16.7%	6,517	26.0%	25,066
Colleges	878	5.3%	3,147	19.1%	1,864	11.3%	10,572	64.2%	16,461

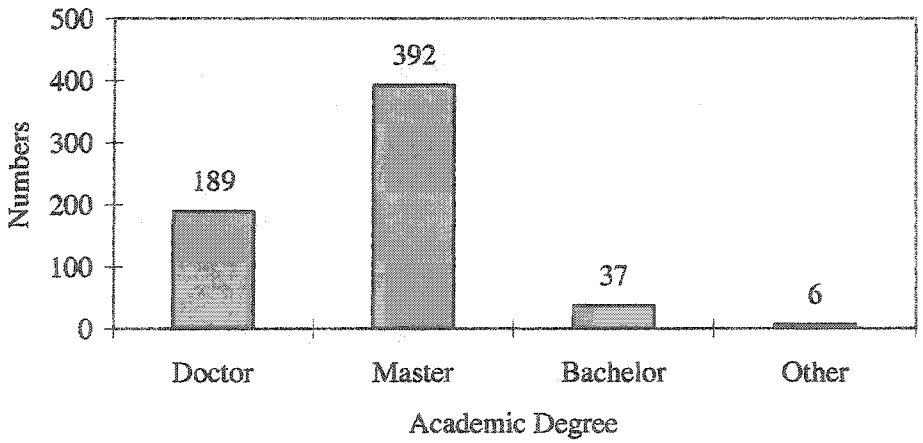
Figure 6 presents that 74.0% university teachers had professional rank of assistant professor or higher while 35.8% colleges' faculties had professional rank of assistant professor or higher.

Figure 6 Percentage of Professional Rank in Universities and Colleges of Taiwan



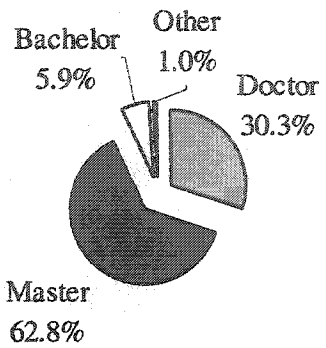
According to the responses, 189 respondents had a doctoral degree (30.3%), 392 respondents had a master's degree (62.8%), 37 respondents had a bachelor's degree (5.9%), and six respondents had less than a bachelor's degree (1.0%). The number of respondents by academic degrees is shown in Figures 7.

Figure7 Frequency Distribution of Respondents by Academic Degree



The percentage of frequency distributions by academic degrees is shown in Figures 8.

Figure 8 Percentage of Frequency Distribution of Respondents by Academic Degree



All of the information for Figure 7 and 8 is reported in Appendix E.

Table 8 shows the composition of the sample based on gender and professional rank. Of male respondents, 50.1% had professional rank of lecturer while 80.8% of female respondents had a rank of lecturer.

Table 8

Composition of Sample Based upon Gender and Professional Rank

	Professor		Associate Professor		Assistant Professor		Lecturer		Total
	Number	%	Number	%	Number	%	Number	%	
Male	19	5.1%	95	25.5%	72	19.3%	187	50.1%	373
Female	1	0.4%	27	10.8%	20	8.0%	202	80.8%	250
Total	20	3.2%	122	19.6%	92	14.8%	389	62.4%	623

The percentages of male and female respondents by professional rank are shown in Figures 9. Of the male respondents, 49.9% had a professional rank of assistant

professor or higher while 19.2% of female respondents had a rank of assistant professor or higher.

Figure 9 Percentage of Frequency of Male/Female Respondents by Professional Rank

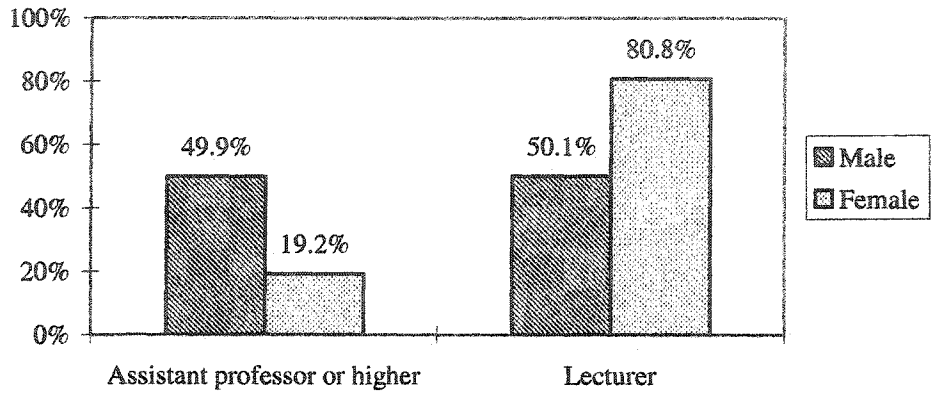


Table 9 lists the composition of the sample based on gender and academic degree. Of the male faculties, 41.1% had a doctoral degree while 14.1% females had a doctoral degree. Also, of the male faculties, 54.7% had a master's degree while 75.1% female faculties had a master's degree.

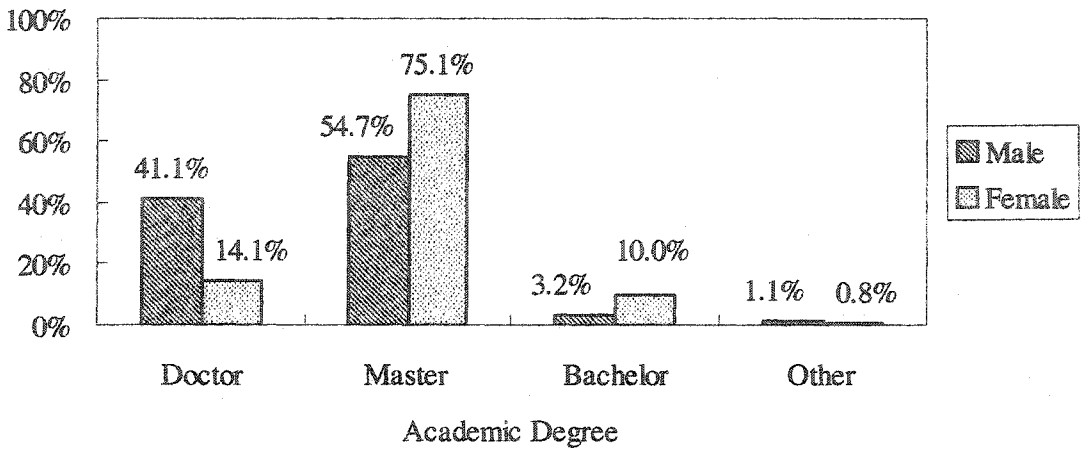
Table 9

Composition of Sample Based upon Gender and Academic Degree

	Doctor		Master		Bachelor		Less Than Bachelor		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Male	154	41.1%	205	54.7%	12	3.2%	4	1.1%	375	60.2%
Female	35	14.1%	187	75.1%	25	10.0%	2	0.8%	249	40.0%
Total	189	30.3%	392	62.8%	37	5.9%	6	1.0%	624	100%

Figure 10 shows the male and female faculties with various degrees.

Figure 10 Percentage of Frequency of Male/Female Respondents by Academic Degree



Individual Question

The frequency and percentage of frequency of each question is demonstrated in Table 10. Questions 22 through 27 were reverse questions. The researcher reverse scored those six questions.

Table 10

Frequency of Each Question

Questions	S A	Agree	No Op.	Disagree	S DA	Total
1. Motivate teachers to improve teaching	86	389	77	55	14	621
	13.8%	62.6%	12.4%	8.9%	2.3%	100%
2. Provide the opportunity of democratic training for teachers and students	62	361	113	67	19	622
	10.0%	58.0%	18.2%	10.8%	3.1%	100%
3. Support teaching communication between teachers and students	76	386	91	58	11	622
	12.2%	62.1%	14.6%	9.3%	1.8%	100%
4. Reflect teaching performance	50	249	139	150	29	617
	8.1%	40.4%	22.5%	24.3%	4.7%	100%
5. Be a reference for teachers' upgrade	25	146	175	210	64	620
	4.0%	23.5%	28.2%	33.9%	10.3%	100%
6. Elevate students' learning motivation	19	134	171	244	51	619
	3.1%	21.6%	27.6%	39.4%	8.2%	100%
7. Provide teachers the opportunities for self-evaluation	76	422	84	29	9	620
	12.3%	68.1%	13.5%	4.7%	1.5%	100%
8. You pay much attention to the results personal	91	371	112	38	9	621
	14.7%	59.7%	18.0%	6.1%	1.4%	100%
9. School pays much attention on the results	37	281	227	71	5	621
	6.0%	45.2%	36.6%	11.4%	0.8%	100%
10. Students pay much attention on the results	16	154	266	163	22	621
	2.6%	24.8%	42.8%	26.2%	3.5%	100%
11. Administration departments in school pay much attention to the results	40	274	234	62	10	620
	6.5%	44.2%	37.7%	10.0%	1.6%	100%
12. Teachers will modify teaching based on the results	43	342	151	74	9	619
	6.9%	55.3%	24.4%	12.0%	1.5%	100%
13. Scope should include teachers' personal character	68	346	137	61	9	621
	11.0%	55.7%	22.1%	9.8%	1.4%	100%
14. Scope should include teachers' teaching materials	96	447	64	13	1	621
	15.5%	72.0%	10.3%	2.1%	0.2%	100%
15. Scope should include the relationship between teachers and students	73	395	116	32	3	619
	11.8%	63.8%	18.7%	5.2%	0.5%	100%
16. Scope should include teachers' teaching methods	108	448	58	8	0	622
	17.4%	72.0%	9.3%	1.3%	0.0%	100%
17. Scope should include the grading or assessment of students' outcome	104	426	73	18	1	622
	16.7%	68.5%	11.7%	2.9%	0.2%	100%

Questions	S A	Agree	No Op.	Disagree	S DA	Total
18. Scope should include students' self-assessment	140	390	73	15	2	620
	22.6%	62.9%	11.8%	2.4%	0.3%	100%
19. Scope should include students' grade point average	116	313	123	61	9	622
	18.6%	50.3%	19.8%	9.8%	1.4%	100%
20. Scope should assess the whole teachers' instructions	120	421	71	8	1	621
	19.3%	67.8%	11.4%	1.3%	0.2%	100%
21. Scope should include the whole subject	113	415	80	11	0	619
	18.3%	67.0%	12.9%	1.8%	0.0%	100%
22. Will make the relationship between teachers and students tense	16	134	233	199	40	622
	2.6%	21.5%	37.5%	32.0%	6.4%	100%
23. Good teacher may not get a high score	3	20	54	315	230	622
	0.5%	3.2%	8.7%	50.6%	37.0%	100%
24. Decrease teaching enthusiasm	17	144	178	234	47	620
	2.7%	23.2%	28.7%	37.7%	7.6%	100%
25. Results are consistent	6	101	167	275	73	622
	1.0%	16.2%	26.8%	44.2%	11.7%	100%
26. Will cause teachers lower their course requirements	10	155	152	241	63	621
	1.6%	25.0%	24.5%	38.8%	10.1%	100%
27. Will affect the relationship between teachers and students	14	189	250	141	27	621
	2.3%	30.4%	40.3%	22.7%	4.3%	100%
28. Results should notify teacher individually for the reference of improving personal teaching	127	395	86	10	1	619
	20.5%	63.8%	13.9%	1.6%	0.2%	100%
29. Results can be a reference of rewarding of excellent teachers	47	254	178	112	31	622
	7.6%	40.8%	28.6%	18.0%	5.0%	100%
30. Results can be a reference of re-employ	21	139	213	173	76	622
	3.4%	22.3%	34.2%	27.8%	12.2%	100%
31. Results can be a reference for promotion	22	149	217	169	63	620
	3.5%	24.0%	35.0%	27.3%	10.2%	100%
32. Results can be a reference for students selecting a course	25	219	202	142	32	620
	4.0%	35.3%	32.6%	22.9%	5.2%	100%
33. Results can be made public	13	73	147	238	150	621
	2.1%	11.8%	23.7%	38.3%	24.2%	100%
34. In generally, students' ratings of instruction is beneficial	65	322	162	48	23	620
	10.5%	51.9%	26.1%	7.7%	3.7%	100%

Table 11 lists the frequency and percentage of frequency of each issue, which was categorized by the original designer of the questionnaire of this research. The highest frequency of positive responses was in the area of content with 81.2% positive responses. The highest frequency of negative responses was in the issue of negative effects, with 50.6% of those surveyed responding negatively.

Table 11

Frequency of Each Issue

Issues	S Agree	Agree	No Op	DA	S DA	Total
Issue 1: Object	394	2,087	850	813	197	4,341
	9.1%	48.1%	19.6%	18.7%	4.5%	100%
Issue 2: Level of value	227	1,422	990	408	55	3,102
	7.3%	45.8%	31.9%	13.2%	1.8%	100%
Issue 3: Content	938	3,601	795	227	26	5,587
	16.8%	64.5%	14.2%	4.1%	0.5%	100%
Issue 4: Negative effect	66	743	1,034	1,405	480	3,728
	1.8%	19.9%	27.7%	37.7%	12.9%	100%
Issue 5: Application	255	1,229	1,043	844	353	3,724
	6.8%	33.0%	28.0%	22.7%	9.5%	100%

The Specific Attitude's Questions

Questions 1 - 8, 12, 20, 22 – 26, and 28 – 33 generally reported on specific components of faculties' attitudes. The rest of the questions generally reported on the scope of individual teaching evaluations and the influence of teacher-student relationships on teaching evaluations. Table 12 shows the total frequency of 21 attitude questions. Of those specific 21 questions, 45.7% received positive responses. In regard to

the general/comprehensive Question 34, positive responses were given by 62.4% of those surveyed. Of the same specific 21 questions, 31.2% received negative responses with Question 34 receiving 11.5% negative responses.

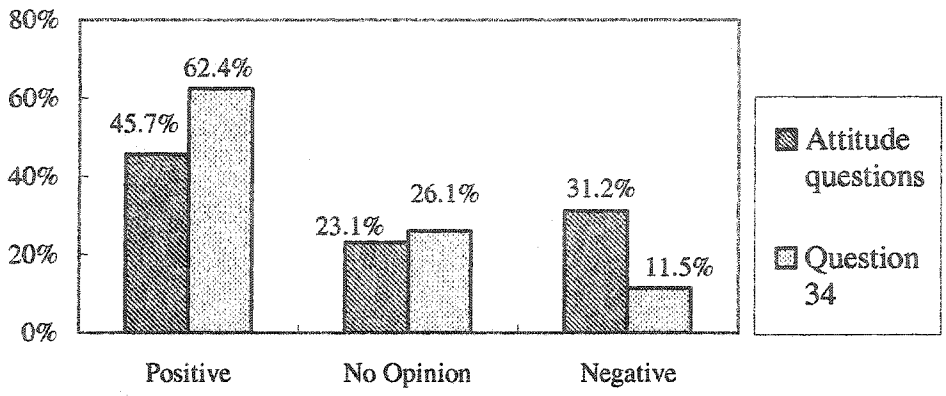
Table 12

Average Frequency of Attitude Questions and Question 34

	S Agree	Agree	No Op	DA	S DA	Total N
Average of 21 attitude questions	955	5,004	3,011	3,041	1,022	13,033
	7.3%	38.4%	23.1%	23.3%	7.8%	100%
Positive, No Opinion, Negative	45.7%		23.1%	31.2%		
Q34: In general, students' ratings of instruction are beneficial	65	322	162	48	23	620
	10.5%	51.9%	26.1%	7.7%	3.7%	100%
Positive, No Opinion, Negative	62.4%		26.1%	11.5%		

A comparison of the average of those 21 questions and Question 34 is displayed in Figure 11. Detail is reported in Appendix F.

Figure 11 Percentage of Frequency in Question 34 and Average of Attitude Questions



To distinguish which characteristics had the greatest influence upon negative responses toward students' ratings of instruction, questions having a positive response rate less than 50% but greater than the negative response rate were denoted as Level 1. Level 2 consisted of those questions that had a positive response rate less than 50% and also less than the negative response rate. The most severe level of negative attitude was characterized as Level 3 in which the negative response rate was greater than 50%. These three levels may be summarized as follows: Level 1: positive responses are less than 50% (e.g., positive is 40%, then negative is less than 40%); Level 2: positive responses are less than 50% and also less than negative responses (e.g., positive is 40%, then negative is greater than 40%); and Level 3: positive responses plus no opinion responses are less than 50% (e.g., positive is 20%, no opinion is 25% for a combined 45%; hence negative is greater than 50%).

Of the 21 attitude questions, 12 questions were denoted according to these three levels. Two questions were designated as Level 1, seven questions were designated as Level 2, and three questions were designated as level 3. The frequency and denotation of the 21 attitude questions are displayed in Table 13.

Table 13

Responses of Attitude Questions and the Levels

Questions	Positive	No Op	Negative	N=	Level
1. Motivate teachers to improve teaching	475	77	69	621	
	76.5%	12.4%	11.1%	100%	
2. Provide the opportunity of democratic	423	113	86	622	
training for teachers and students	68.0%	18.2%	13.8%	100%	
3. Support teaching communication between	462	91	69	622	
teachers and students	74.3%	14.6%	11.1%	100%	
4. Reflect teaching performance	299	139	179	617	L1
	48.5%	22.5%	29.0%	100%	
5. Be a reference for teachers' upgrade	171	175	274	620	L2
	27.6%	28.2%	44.2%	100%	
6. Elevate students' learning motivation	153	171	295	619	L2
	24.7%	27.6%	47.7%	100%	
7. Provide teachers the opportunities for	498	84	38	620	
self-evaluation	80.3%	13.5%	6.1%	100%	
8. You pay much attention to the results	462	112	47	621	
personal	74.4%	18.0%	7.6%	100%	
12. Teachers will modify teaching based on	385	151	83	619	
the results	62.2%	24.4%	13.4%	100%	
20. Scope should assess the whole teachers'	541	71	9	621	
instructions	87.1%	11.4%	1.4%	100%	
22. Will make the relationship between	150	233	239	622	L2
teachers and students tense	24.1%	37.5%	38.4%	100%	

Questions	Positive	No Op	Negative	N=	Level
23. Good teacher may not get a high score	23	54	545	622	L3
	3.7%	8.7%	87.6%	100%	
24. Decrease teaching enthusiasm	161	178	281	620	L2
	26.0%	28.7%	45.3%	100%	
25. Results are consistent	107	167	348	622	L3
	17.2%	26.8%	55.9%	100%	
26. Will cause teachers lower their course	165	152	304	621	L2
requirements	26.6%	24.5%	49.0%	100%	
28. Results should notify teacher individually	522	86	11	619	
for the reference of improving personal teaching	84.3%	13.9%	1.8%	100%	
29. Results can be a reference of rewarding of	301	178	143	622	
excellent teachers	48.4%	28.6%	23.0%	100%	
30. Results can be a reference of re-employ	160	213	249	622	L2
	25.7%	34.2%	40.0%	100%	
31. Results can be a reference for promotion	171	217	232	620	L2
	27.6%	35.0%	37.4%	100%	
32. Results can be a reference for students	244	202	174	620	L1
selecting a course	39.4%	32.6%	28.1%	100%	
33. Results can be made public	86	147	388	621	L3
	13.8%	23.7%	62.5%	100%	
Total Average	5,959	3,011	4,063	13,033	
	45.7%	23.1%	31.2%	100%	

Table 14 shows the denoted questions regarding faculties' attitudes and is ordered by the rank of positive responses. The lowest ranking question was question 23, with only 3.7% faculties giving positive responses regarding whether of a good teacher may not get a high score.

Table 14

Denoted Questions of Responses Ordered by Positive Responses

Question Numbers and Questions	Positive	No Op	Negative	Level
23. Good teacher may not get a high score	3.7%	8.7%	87.6%	L3
33. Results can be made public	13.8%	23.7%	62.5%	L3
25. Results are consistent	17.2%	26.8%	55.9%	L3
22. Will make the relationship between teachers and students tense	24.1%	37.5%	38.4%	L2
6. Elevate students' learning motivation	24.7%	27.6%	47.7%	L2
30. Results can be a reference of re-employ	25.7%	34.2%	40.0%	L2
24. Decrease teaching enthusiasm	26.0%	28.7%	45.3%	L2
26. Will cause teachers lower their course requirements	26.6%	24.4%	49.0%	L2
5. Be a reference for teachers' upgrade	27.6%	28.2%	44.2%	L2
31. Results can be a reference for promotion	27.6%	35.0%	37.4%	L2
32. Results can be a reference for students selecting a course	39.4%	32.6%	28.1%	L1
4. Reflect teaching performance	48.5%	22.5%	29.0%	L1

Table 15 demonstrates the denoted questions regarding faculties' attitude and is ordered by the rank of negative responses. The highest ranked question was number 23, with 87.6% faculties having negative responses regarding the question of a good teacher

might not get a high score.

Table 15

Denoted Questions of Responses Ordered by Negative Responses

Question Numbers and Questions	Positive	No Op	Negative	Level
23. Good teacher may not get a high score	3.7%	8.7%	87.6%	L3
33. Results can be made public	13.8%	23.7%	62.5%	L3
25. Results are consistent	17.2%	26.8%	55.9%	L3
26. Will cause teachers lower their course requirements	26.6%	24.4%	49.0%	L2
6. Elevate students' learning motivation	24.7%	27.6%	47.7%	L2
24.Decrease teaching enthusiasm	26.0%	28.7%	45.3%	L2
5. Be a reference for teachers' upgrade	27.6%	28.2%	44.2%	L2
30. Results can be a reference of re-employ	25.7%	34.2%	40.0%	L2
22. Make the relationship between teachers and students tense	24.1%	37.5%	38.4%	L2
31. Can be a reference for promotion	27.6%	35.0%	37.4%	L2
4. Reflect teaching performance	48.5%	22.5%	29.0%	L1
32. Can be a reference for students selecting a course	39.4%	32.6%	28.1%	L1

A review of Tables 14 and 15 indicates that three questions had consistency, either from the viewpoint of positive responses or negative responses. These three questions were categorized into Level 3. All three questions had highest negative responses and lowest positive responses.

Table 16 shows that the average percentage of positive responses increased when the denoted questions were removed from each level. The average percentage of positive

responses in the total attitude questions was 45.7% and 72.8% in those questions without the 12 denoted questions. The difference between averages percentage of frequency without Level 1 questions and averages percentage of frequency without Levels 1 and 2 questions was less than 5%. This research found that the average percentage of positive frequency increased when the denoted questions were not calculated in the calculation. Figure 12 shows the results of finding. Additional Chi-Square analysis of questions in Levels 2 and 3 was conducted to determine the experimental consistency.

Table 16

Average Percentage of Frequency by Levels

Attitude Questions	Positive	No Op	Negative
Total attitudes' questions	45.7%	23.1%	31.2%
Questions without level 1	45.9%	22.6%	31.5%
Questions without levels 1 and 2	57.5%	17.9%	24.6%
Questions without Levels 1, 2 and 3	72.8%	17.2%	9.9%

The findings presented in Table 16 may be represented from another perspective. The major issue in the least accepted component of student evaluations regarded the belief by faculties that these evaluations, while capable of reflecting teaching performance, do not have the ability to ensure consistency in valid evaluations. As a result of the potential for inconsistent ratings from students, faculties strongly (87.6%) believe that it is possible for good teachers to have a low score and, consequently, do not want their scores made public.

Figure 12 Percentages of Positive Responses of Frequency by Levels

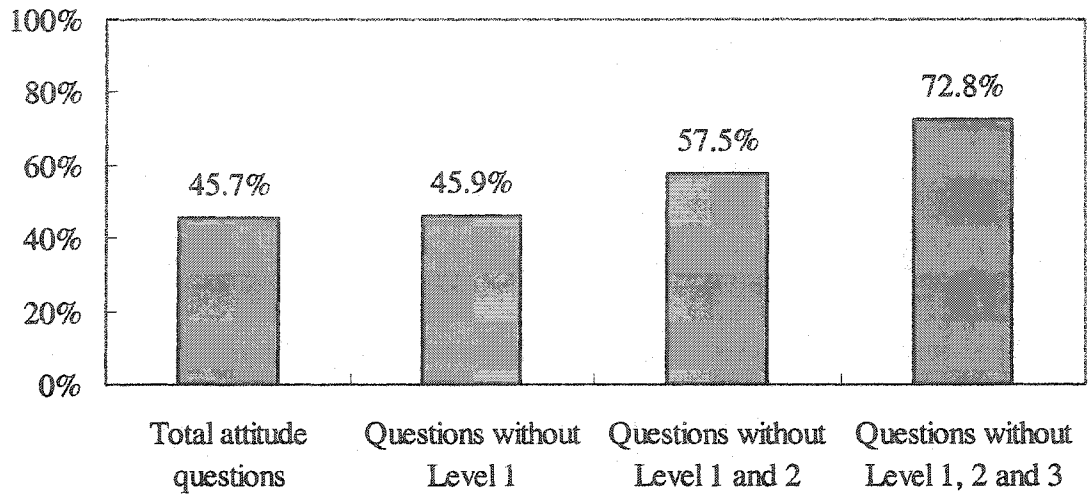


Table 17 indicates the overall distribution of positive and negative responses for all questions and compared with the expected distribution if the problems arising with inconsistency of responses were resolved. That is, when the three questions regarding employment (upgrading, re-employment, and promotion) were removed from the totals.

In addition, closely connected to and following from the issue of inconsistency is the strong disapproval that faculties showed regarding employment dependency upon the evaluation scores. Table 17 also indicates expected results based upon using student evaluations of instructors' teaching but without utilizing those scores for promotion, upgrading, or re-employment purposes. The positive percentage of frequency increased from 45.7% to 56.3%. Positive percentage of frequency increased 5.7% from without three level 3 questions. Additional, increased 4.7% from without employment dependency questions.

Table 17

Average Percentage of Frequency of Total Attitude Question, without Level 3 Questions, and without Questions of Employment Dependency

Questions	Positive	No Op	Negative
Total attitude questions	45.7%	23.1%	31.2%
Attitude questions without Level 3	51.4%	23.7%	24.9%
Attitude questions without Level 3 and questions of employment dependency	56.3%	21.9%	21.8%

Additional Analyses of Denoted Questions

According to the findings in Table 15, this research identified that the questions in Level 2 and Level 3 are the most important questions concerning faculties' attitudes. This research further analyzed the percentage of frequency by Chi-Square tests of those questions. Chi-Square test conducted based upon regions, gender, professional rank, academic degree, and total teaching years. All the p-values of percentage of frequency by Chi-Square test was greater than .05 except for Question 33 which enumerated participants based upon academic degree. There is no statistical experimental consistency in those questions based upon demography. Question 33, the results can be made in public, this research found that 56.9% respondent who had a doctoral degree presented negative responses while 75.7% respondent who had a bachelor's degree presented negative responses. The p-value based upon academic degree by Chi-Square test was .039, met a statistical experimental consistency set *a priori* at an α level of .05. Details of percentage of frequency in universities and colleges are reported in Appendixes

G through K, results of Chi-Square test are reported in Appendix L.

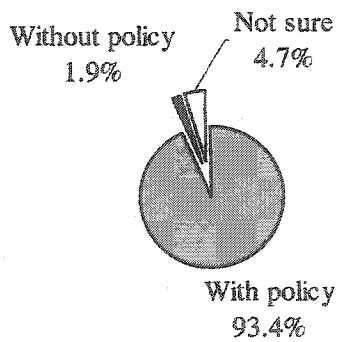
Discriminate Functional Analyses

Analyses were conducted to determine if the predictor variables of age, teaching years in current school, and total teaching years were able to correctly predict faculties' attitudes toward student evaluation. Using Discriminate Function Analysis, these predictor variables were not predictive of attitude toward student evaluation of faculties, either as a whole or by individual questions. All p-values calculated were above .05, and all computed predictive percentages did not differ from chance.

Results of Policy

Excluding the missing data, 580 (93.4%) respondents reported that their school had the policy or regulation regarding student rating of instruction. Twelve (1.9%) respondents reported that their school did not have policy or regulation regarding student rating of instruction. Twenty-nine (4.7%) respondents reported that they were uncertain to as whether or not their schools had such a policy. Figure 13 shows the frequency distribution of schools with and without student rating policies.

Figure 13 Percentage of Frequency Distribution of Schools with/without Student Rating Policies



The percentage of frequency in total responses and the responses of the respondents' schools with and without policies regarding students' ratings of instruction is shown in Table 18. Positive responses increased from 53.8% for total average to 54.2% for with policy. Fifty point one percent of respondents whose schools were without policies regarding students' ratings of instruction presented positive responses.

Table 18

Percentage of Frequency for Total Responses and Responses with and without Policy --- All Questions

	Positive	No Op	Negative
Total responses in all questions	53.8%	23.1%	23.1%
The responses that their school with policy	54.2%	22.8%	22.9%
The responses that their school without policy	50.1%	30.6%	19.3%

Furthermore, Table 19 shows the same analysis with only the attitude questions. Same results were found. All differences were less than 5%. However, the sample size of respondent schools without a policy was 12. The sample size was too small to be statistically reliable. No further analyses were conducted because of this insufficient sample size.

Table 19

Percentage of Frequency for Total Responses and Responses with and without Policy --- Only Attitude Questions

	Positive	No Op	Negative
Total responses for attitude questions	46.5%	23.2%	30.3%
The responses that their school with policy	46.9%	23%	30.1%
The responses that their school without policy	44.7%	32.1%	23.3%

Results of Who Will View the Results

Of responses, 522 (83.4%) respondents presented that the individual saw the results of student evaluations, 395 (63.1%) respondents presented that the Dean of department saw the results, 44 (7%) respondents presented that the Dean of studies saw the results, 252 (40.3%) respondents presented that the principal saw the results, and 179 (28.6%) respondents presented that the supervisor of personnel department saw the results. Table 20 displays the total percentage of frequency in different responses based upon viewer of the results of student evaluations in their schools.

Table 20

Percentage of Frequency by Who View the Results of Student Evaluations

* Viewers (respondents, %)	Positive	No Opinion	Negative
Individual (522, 83.4%)	55.4%	24.2%	20.4%
Dean of Department (395, 63.1%)	55.3%	21.4%	23.2%
Dean of Studies (44, 7%)	51.0%	22.5%	26.5%
Principal (252, 40.3%)	54.1%	21.5%	24.4%
Supervisor of Personnel (179, 28.6%)	55.0%	20.8%	24.2%

* Total N = 626, each percentage of frequency based upon each respondents.

Table 21 displays the total percentage of frequency in different responses based upon not a viewer of the results of student evaluations in their schools. The percentage of frequency difference was less than 5%. Thus, the results do not have a statistical experimental importance difference.

Table 21

Percentage of Frequency by not Viewers of the Results of Student Evaluations

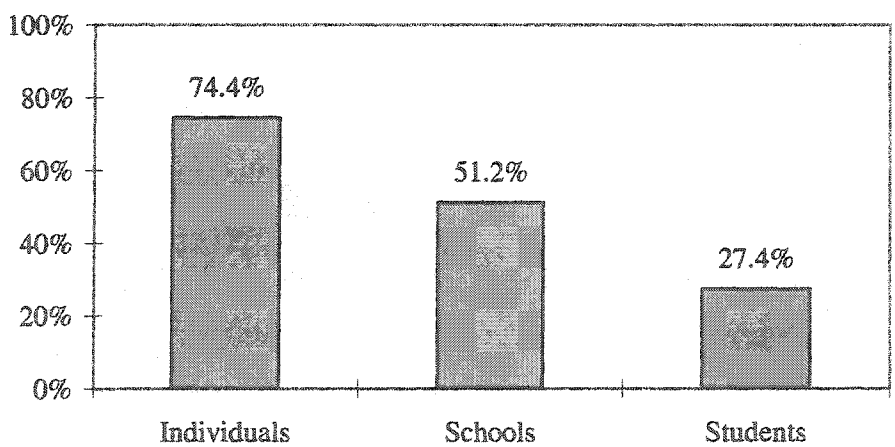
* Not viewers (respondents / %)	Positive	No Opinion	Negative
Individual (100, 16%)	52.5%	25.6%	21.9%
Dean of Department (227, 36.3%)	51.1%	26.0%	22.9%
Dean of Studies (577, 92.2%)	54.0%	23.1%	22.9%
Principal (369, 58.9%)	53.6%	24.2%	22.3%
Supervisor of Personnel (442, 70.6%)	53.3%	24.0%	22.7%

* Total N = 626, each percentage of frequency based upon each respondents.

Value Perceived of the Student Evaluations

Of the respondents, 48.5% college teachers reported that student evaluations reflected teaching performance, 76.5% reported that student evaluations can motivate teachers to improve teaching, and 80.3% reported that student evaluations provide the opportunities for teachers' self-evaluation. Furthermore, 62.2% respondents reported that they would use the results to modify teaching, and 74.4% respondents addressed that they personally gave much attention to the results. At the same time, 51.2%of the faculties responded that their schools paid attention to the results, and only 27.4% of the faculties said that students paid attention to the results. Respondents presented that individuals, schools, and students had different values regarding the results of student evaluations. College teachers believed that they more carefully considered the results than schools and students. The percentage of frequency in those three questions is demonstrated in Figure 14. Figure14 shows that individual faculties, schools, and students had different values of student evaluations.

Figure 14 Percentage of Frequency on the Questions of Seriousness to the Results of Student Evaluations --- Individuals, Schools, and Students



Open-Ended Question

Question 35 of the "University Teachers' Attitudes toward the Students' Ratings of Instruction Survey" was an open-ended question and provided qualitative data. One hundred and nineteen respondents answered Question 35. Data were collected from these written responses. The qualitative analyses followed established procedures. All of the respondents in this research were college teachers in Taiwan. Therefore, this research information was translated to English and was quoted in Chinese.

The qualitative procedures utilized in this research were: (a) the researcher transcribed each response and noted the subject who made the response, (b) data then was decontextualized and coded into emerging categories, (c) six categories emerged from analyzing the decontextualized data, and (d) the topics were reported in the findings as themes when responses were equal to or more than 30. The data was recontextualized into two themes. Two themes evinced from this qualitative analysis were (a) student criteria for evaluating teachers, and (b) application of teaching evaluations.

Student Criteria for Evaluating Teachers

College teachers declared that only hard working students will fulfill the course requirements for a teacher's class. Once students fulfill the requirement, then students could totally understand the materials that a particular teacher taught. Thus, students achieved the goals of each course. On the other hand, if a student failed to complete the requirement for a course, such as missing classes, then they may not achieve the goals of the course. Respondent 359 stated, the students should be rejected for teaching evaluation when students are no intentions for classes. [無心上課的學生應剔除在評鑑教師之外]

As an example, one respondent stated, hard working students like hard teaching

instructors. On the other hand, students do not like hard teaching instructors when they do not work hard on their study. They will lower the scores of teaching evaluations. [用功的學生喜歡教學認真的老師,不用功的學生反而會討厭,因而導致評量結果不佳] Participant 139 stated, it is an insult to be evaluated by students who do not pay attention in classes. [對於上課不認真的學生參與評鑑授課教師是對老師最大的侮辱] Another respondent stated, students cannot observe teaching performance clearly when they regardless during classes. Thus, their teaching evaluations will be not correct. [學生不認真,未真正觀察上課,其評鑑結果並不正確] Teacher 620 stated, only the quality and maturity of students achieve some standard, teaching evaluations have meaning. [學生資質成熟度皆要達一定水準來作評鑑才會有意義] Forty-two respondents (35.3% of 119) replied that only good or more mature students have the rights to evaluate their instructors.

Application of Teaching Evaluations

Six questions regard application of the results of students' ratings of instruction in the questionnaire of this research. However, respondents still addressed their strong opinions regarding the application of the results. College teachers indicated that the results should be used for a reference only, and should not be used for personnel decisions. For example, one respondent stated, personnel should have ability to analyze the results of teaching evaluations. Otherwise, the results are used for a reference only. [應確認各相關單位或人員具有分析資訊和解讀能力後,再予以應用,否則此一結果僅

適合做為參考] Another participant stated, the results are used for individual teaching improvement. It should not be used for a benchmark of teachers' upgrading, re-hiring, and promotion. [評量本身是提供教師個人參考改進用,不可為教師升遷聘用指標]

Thirty-four teachers (28.8% of 119) strongly stated that the results of students' ratings of instruction should only be used as a reference and should not be used for any personnel decisions.

Comparison with Research in Universities

Chang (2003) conducted similar research on faculties' attitudes of students' ratings of instruction using the same questionnaire utilized in this research. A comparison of these two studies will be reported here. The analysis used by Chang was also utilized in this research in order to provide a comparison of findings. However, this research was done in colleges rather than universities as Chang had done in 2001.

Mean Differences in Rank

Chang (2003) computed the mean differences in Likert scores; consequently, mean Likert scores will be reported for this research and referred to as mean rank scores to denote the rank order characteristic of Likert scaled responses. For the purposes of this comparison, a mean rank difference of .5 or greater will denote a reportable level of experimental importance. This level of experimental importance represents the minimum value necessary to result in a change of category, that is, to cause a mean rank score to move from one level such as No Opinion to the next level of Agree. Mean rank scores having differences less than .5 will be statistically considered to be the same ranking.

The analysis of mean rank scores of all questions administered in the colleges and

universities resulted in no mean rank differences greater than .3 for any given question. Consequently, no mean rank differences between questions were reported.

Comparison of p-Values for Mean Rank Differences

Consistent with Chang's (2003) methodology, an independent two-sample t-test was conducted to determine the level of experimental consistency, that is, the p-value, between mean ranks scores found in both analyses. Sixteen of the questions were found to have experimental differences between mean rank scores in which the p-values were less than or equal to .05 for the differences found. These findings are reported in Table 22. Details of each question are demonstrated in Appendix M.

Table 22

Differences in Mean Rank Scores between University and College Teachers --- p-Value < .05

Question	Mean Rank of Universities	Mean Rank of Colleges	Mean Rank Difference*	p-value
2. Provide the opportunity of democratic training for teachers and students	3.5	3.6	-0.1	0.038
5. Be a reference for teachers' upgrade	3.0	2.8	0.2	0.008
8. You pay much attention to the results personal	3.9	3.8	0.1	0.012
13. Scope should include teachers' personal character	3.5	3.6	-0.1	0.029
15. Scope should include the relationship between teachers and students	3.6	3.8	-0.2	0.000
17. Scope should include the grading or assessment of students' outcome	3.9	4.0	-0.1	0.014
19. Scope should include students' grade point average	3.6	3.7	-0.1	0.001
22. Will make the relationship between teachers and students tense	2.9	3.2	-0.3	0.000
24. May decrease teachers' teaching enthusiasm	2.9	3.2	-0.3	0.000
25. Results are consistent with teacher's expectations	3.3	3.5	-0.2	0.001
26. Will cause teachers lower their course requirements	3.0	3.4	-0.4	0.000
27. Will affect the relationship between teachers and students	2.7	3.0	-0.3	0.000
30. Results can be a reference of re-employ	2.9	2.8	0.1	0.014
31. Results can be a reference for promotion	3.1	2.8	0.3	0.002
32. Results can be a reference for students selecting a course	3.2	3.1	0.1	0.024
33. Results can be made public	2.5	2.3	0.2	0.000

* Positive means mean rank of universities greater than mean rank of colleges.

Table 23 shows the mean difference between college teachers and university teachers in all five issues' areas. The analysis of mean rank scores between college and university teachers in the area of issues resulted in no mean rank difference greater than .2 for any given issue.

Table 23

Mean Rank Difference Between University and College Teachers--- Areas of Issue

Issue No	Mean Rank of Universities	Mean Rank of Colleges	Mean Rank Difference*
Issue 1: Object	3.4	3.4	0.0
Issue 2: Level of Value	3.5	3.4	0.1
Issue 3: Content	3.9	3.9	0.0
Issue 4: Negative Effect	3.2	3.4	-0.2
Issue 5: Application	3.2	3.1	0.1

* Positive means mean rank of universities greater than mean rank of colleges.

Frequency Differences

Table 24 shows the difference of frequency between college teachers and university teachers when the difference was greater than 5%. Table 24 shows that the 20 questions' differences were greater than 5%. Each difference was greater than 5% in the issue of application. In addition, in the issue of negative effect, each difference was more than 5%, except in the responses to the question of good teachers may not get a high score. Chi-Square test was conducted for further analysis to determine the experimental consistency. Seven questions' differences had an experimental consistency for the p-value less than .05. Details are reported in Table 24 and Appendix N.

Table 24

Percentage of Frequency Difference Between Universities and Colleges --- Difference > 5% and p-Value of Chi-Square

Questions	Negative	No Op	Positive	p-Value
2. Provide the opportunity of democratic training	4.2%	3.8%	-8.0%	.368
4. Reflect teaching performance	-2.0%	-4.0%	6.0%	.368
5. Be a reference for teachers' upgrade	-7.9%	-4.0%	11.9%	.135
6. Elevate students' learning motivation	-1.0%	-4.4%	5.5%	.178
7. Provide teachers the opportunities for self-evaluation	-1.7%	-5.2%	6.9%	.257
8. You pay much attention to the results personal	-3.4%	-3.2%	6.5%	.292
15. Scope should include the relationship	9.2%	1.8%	-10.9%	.048
17. Scope should include the students' outcome	3.9%	1.4%	-5.2%	.273
19. Scope should include students' grade point average	6.8%	1.5%	-8.2%	.162
22. Make the relationship tense	-7.5%	-8.0%	15.5%	.135
24. May decrease teachers' teaching enthusiasm	-13.2%	-0.6%	13.8%	.004
25. Results are consistent with teacher's expectations	-8.2%	0.4%	7.8%	.018
26. Cause teachers lower their course requirements	-10.0%	-4.4%	14.4%	.066
27. Affect the teacher-student relationship	-4.4%	-15.1%	19.4%	.009
28. Results should notify teacher individually	0.5%	-5.6%	5.1%	.174
29. Can be a reference of rewarding	-1.5%	-9.6%	11.1%	.042
30. Results can be a reference of re-employ	-3.4%	-10.1%	13.4%	.048
31. Results can be a reference for promotion	-5.7%	-9.3%	15.1%	.123
32. Can be a reference for students selecting a course	-3.4%	-8.9%	12.3%	.072
33. Results can be made public	-7.6%	0.3%	7.3%	.022

Note: Positive means universities' percentage of frequency is greater than colleges'.

Table 25 lists the frequency difference between universities and colleges by issues. All difference by issue of object, level of value, and content are less than 5%. However, the percentage frequency difference by issues of negative effect and application more than 5%, even over than 10%. Chi-Square test was conducted to determine the experimental consistency when the difference was greater than 5%. The issue of effect had experimental consistency for p-value less than .05 (.006).

Table 25

Percentage of Frequency Difference Between Universities and Colleges by Issues

		Object	Value	Content	Effect	Application
Universities	Negative	21.8%	11.3%	7.1%	33.9%	28.6%
N=407	No Opinion	17.7%	31.9%	13.2%	22.8%	20.8%
	Positive	60.5%	56.8%	79.6%	43.3%	50.6%
Colleges	Negative	23.3%	14.9%	4.5%	50.6%	32.1%
N=626	No Opinion	19.6%	31.9%	14.2%	27.7%	28.0%
	Positive	57.2%	53.2%	81.2%	21.7%	39.8%
*Difference	Negative	-1.5%	-3.6%	2.6%	-16.6%	-3.5%
	No Opinion	-1.9%	0.0%	-1.0%	-5.0%	-7.2%
	Positive	3.4%	3.6%	-1.6%	21.6%	10.7%
p-Value of Chi-Square Test					.006	.186

* Positive means universities' percentage of frequency is greater than colleges'.

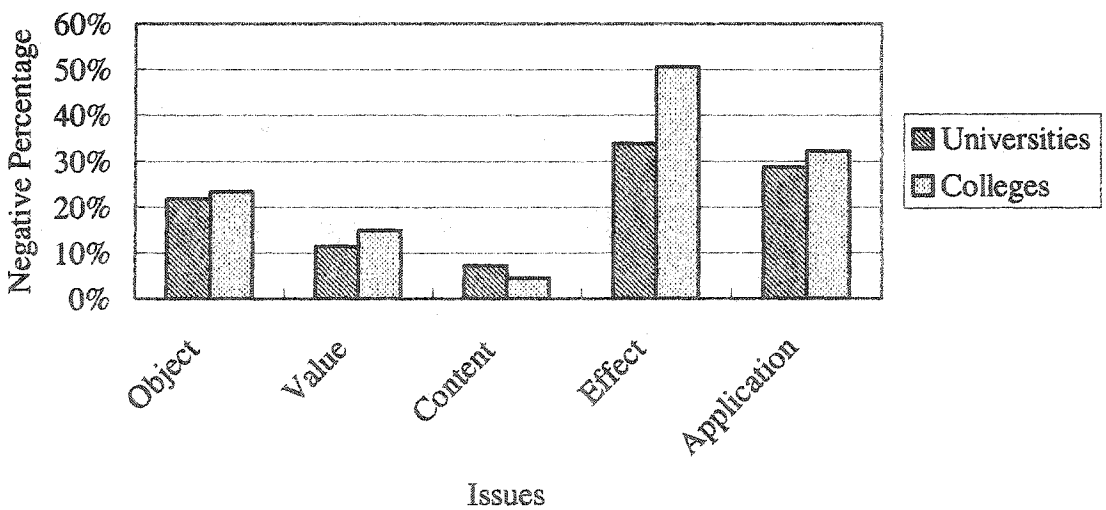
Additional Comparison

A review of Tables 22 and 23 indicates that the mean rank difference did not meet the level of experimental importance set a priori, but a review of Tables 24 and 25 shows that the percentage of frequency difference did have meet the level of experimental importance of more than 5% set a priori. For further analyses, this research categorized the questions in which the difference was more than 10% and compared the differences between university teachers and college teachers.

Issues

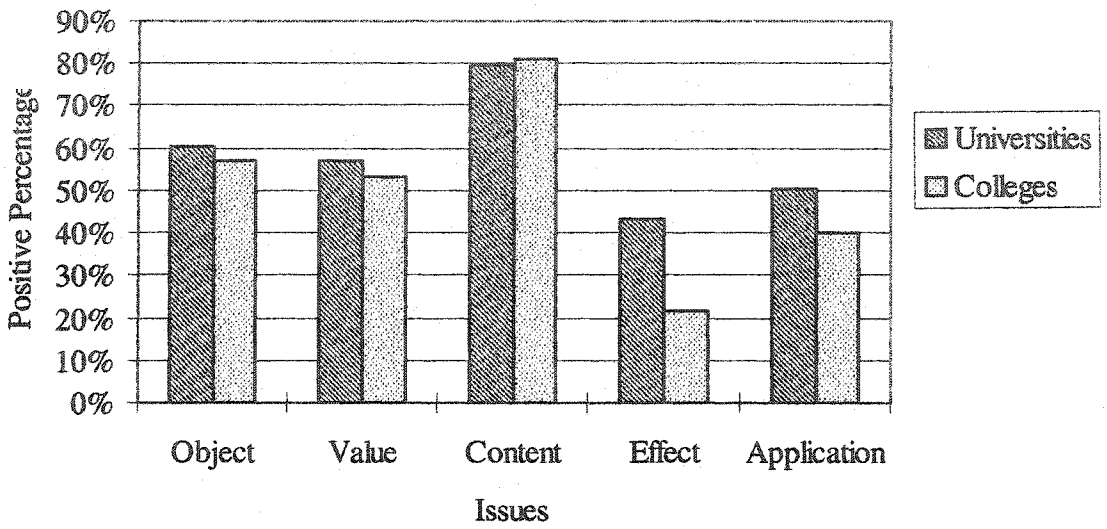
Figure 15 shows the negative responses percentage of frequency by issues. College participants had more negative responses than university participates except on the issue of content.

Figure 15 Negative Responses Percentage of Frequency in University Teachers and College Teachers by Issues



Also, Figure 16 shows the reverse of Figure 15, with university teachers having higher positive responses than college teachers in each issue except that of content.

Figure 16 Positive Responses Percentage of Frequency in University Teachers and College Teachers by Issues



Questions of Teacher-Student Relationship

In the finding of this research, ten questions' percentage of frequency differences between colleges and universities are greater than 10%. This research categorized two questions regarding teacher-student relationship, Question 22, indicated that student evaluations of teachers would make the relationship between teachers and student tense, and Question 27, that students' ratings of instruction will affect the relationship between teachers and students.

Figure 17 Positive Responses Percentage of Frequency in Universities and Colleges --- Questions of Teacher-student Relationship

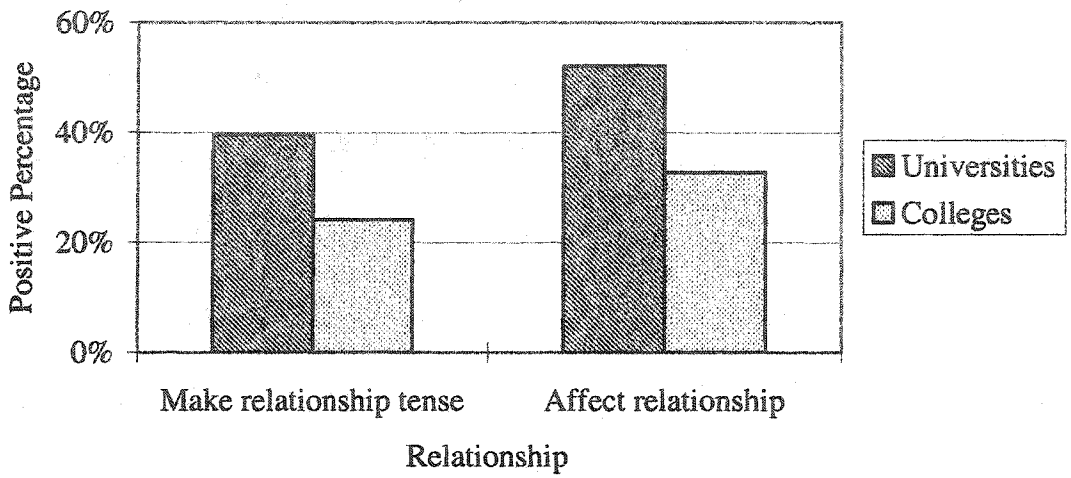


Figure 17 shows the faculties' positive responses regarding the teacher-student relationship in colleges and universities. This research found that 39.6% university respondents had positive responses regarding Question 22, *students' ratings of instruction will make the teacher-student relationship tense,* while 24.1% for colleges' responses; 52.1% university respondents had positive responses with Question 27, *students' ratings of instruction will effect the teacher-student relationship,* while 32.7% for colleges' responses. However, 64.7% university teachers had positive responses of student evaluations should include teacher-student relationship while 75.6% college teachers believed that.

Questions of Teachers' Employment Dependency

Three questions were generally concerned with teachers' employment dependency. They were to be used as references for teachers' (a) upgrading, Question 5, (b) re-employment, Question 30, and (c) promotion, Question 31. All the positive frequency

differences of those three questions were greater than 10%, 11.9% for Question 5, 13.4% for Question 30, and 15.1% for Question 31.

Figure 18 Positive Responses Percentage of Frequency in Universities and Colleges --- Questions of Teachers' Employment Dependency

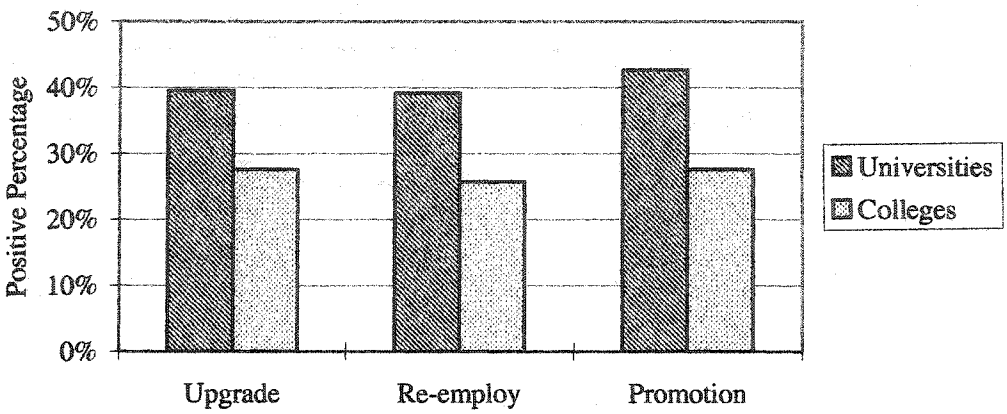


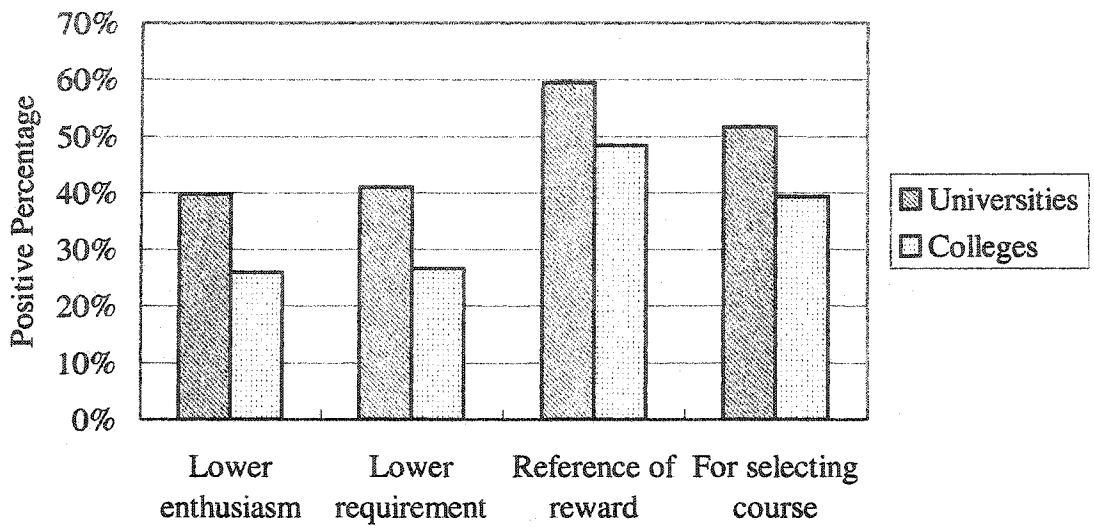
Figure 18 demonstrates the difference in universities and colleges. Universities' percentages of frequency were greater than colleges'. As a result, universities had higher positive percentages of frequency regarding the questions of employment dependency.

Other Questions

Except for the six questions mentioned above, four further questions' percentage of frequency differences were greater than 10%. They are: (a) student evaluations will decrease teachers' enthusiasm, Question 24, (b) teachers will lower their course requirements because the system of students' ratings, Question 26, (c) the results of students' ratings can be a reference of rewarding of excellent teachers, Question 29, and (d) the results of students' ratings can be a reference for student selecting a course, Question 32. Figure 19 displays the positive responses percentage frequency in universities and colleges. Universities' positive responses were all greater than colleges'

in those four questions.

Figure 19 Positive Responses Percentage of Frequency in Universities and Colleges --- Other Questions' Difference > 10%



Summary of Comparison

The mean rank differences between universities and colleges did not have experimentally important differences for each mean rank less than .5. However, the percentage of frequency differences represented different viewpoints. The percentage of frequency differences of 20 of the questions were greater than 5%, and among these 20 questions, ten had a percentage of frequency difference greater than 10%. Moreover, nine of the ten questions exhibited the university teachers as having a greater number of positive responses than college teachers. Of those same ten questions, five had experimental consistency with p-value of Chi-Square test less than .05.

Summary of Results

A random sample of 21 from the total of 56 Taiwanese colleges of technology was chosen for this research. Forty faculties were randomly chosen to receive the questionnaire in each college. A total of 626 faculties' responses represented a 74.5% return rate. The population, total college teachers, of this research was 12,473 faculties. Krejcie and Morgan (1970) suggested that when the population size is around 15,000, the minimum sample size should be 375. Thus, 626 respondents provide sufficient sample size. For this research, all data analyses were calculated using Microsoft Excel and GB-STAT computer program.

According to the demographic information, 376 (60.5%) of the respondents were males having an average age of 44 and an average total teaching experience of nine years, and 246 (39.5%) of the respondents were females having an average age of 42 with an average total teaching experience of 11 years. In this research, 49.9% of the male faculties had a professional rank of assistant professor or higher while 19.2% of the female faculties had a rank of assistant professor or higher. Also, 41.1% of the male faculties had a doctoral degree and 54.7% had a master's degree while 14.1% of the female faculties had a doctoral degree and 75.1% had a master's degree.

In this survey, 21 questions reported generally on specific components of faculties' attitude. Of those 21 questions, 12 of them were the questions in which faculties had more negative responses. Three of the 12 questions resulted in faculties having consistent negative responses. These questions are (a) a good teacher may not get a high score, (b) results are consistent with teacher's expectations, and (c) results can be published in public. Three of the 12 questions are questions regarding teachers'

employment dependency. These questions are to be used as a reference for upgrading, re-employment, and promotion purposes. The Chi-Square test for percentage of frequency was conducted to determine the experimental importance and consistency. All p-values were greater than .05 except one. There is no experimental consistency in those 21 questions based upon region, gender, professional rank, academic degree, and total teaching years. The p-value of the Chi-Square test for Question 33 based upon academic degree was .039 and meet the statistical experimental consistency set a priori α of .05. College teachers with a doctoral degree had a lower negative responses, 56.9% college teachers with a doctoral degree had negative responses while 75.7% college teachers with a bachelor degree had negative responses.

In general, college teachers are serious to the students' ratings of instruction and will use the results for self-evaluation and teaching improvement. However, they do not believe that the schools and students will pay equal consideration to the student evaluations.

A comparison was made between university teachers and college teachers using mean rank difference and two-sample t-test analysis. No experimental difference was found.

Further comparison was conducted by frequency and Chi-Square test analyses. Ten questions' differences of frequency between university teachers and college teachers were more than 10%. Of these ten questions, four questions had experimental consistency. University teachers' positive responses indicated a statistical experimental consistency that was greater than that of college teachers' positive responses in four questions. These questions are: (a) students' ratings of instruction may decrease teachers' teaching

enthusiasm, (b) students' ratings of instruction may affect the teacher-student relationship, (c) the results can be a reference for rewarding excellent teachers, and (d) the results can be a used as a reference of re-employment. Only in one question did college teachers' positive responses present statistical experimental consistency that was greater than that of university teachers. This question addressed the scope of which students' ratings of instruction should include teacher-student relationships. Two questions' differences were greater than 5% and less than 10% and had experimental consistency for a p-value of Chi-Square test that met the consistency level set a priori α of .05. These questions are: (a) the results are consistent with teachers' expectations, and (b) the results can be made public. In regard to 18 of the questions, university teachers had a higher number of positive responses than college teachers. Generally, university teachers had higher positive attitudes than college teachers toward students' ratings of instruction.

A comparison of the differences between university teachers and college teachers by issues, object, content, level of value, effect, and application, with frequency and Chi-Square test analysis was conducted. The differences of percentage of frequency in the responses of university and college teachers were compared by using the issues as variables and by using the Chi-Square test analysis. University teachers' responses had a statistical experimental consistency of positive responses greater than college teachers' responses in the issue of effects.

This research used age, total years of teaching, and the number of years teaching in the current school to be the predictor variables for Discriminate Functional Analysis. According to the results, these predictor variables were not predictive of attitude toward student evaluation of teachers, either as a whole or by individual questions.

Furthermore, this research found that 93.4% of the respondents reported their schools as having policy/regulations regarding students' ratings of instruction, and 1.9% of the respondents reported that their schools did not have such policies/regulations. When calculating the percentage of frequency with/without policy, all differences were less than 5%, and had no experimental importance that met the *a priori* parameter of 5%. No further analysis was conducted because of the insufficient sample that included only 12 respondents without policies.

This research found that university teachers had strong positive attitudes toward students' ratings of instruction. However, the results also demonstrated that college teachers have strong negative attitudes regarding specific questions, such as a good teacher may not receive a high score, whether results are consistent, and should results be made public. College teachers also have negative responses when the results are used for the purpose of employment (promotion, re-employment, and upgrades). These findings will be discussed further in Chapter 5.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Introduction

In the 21st Century, Taiwanese education faces the challenge of greater economic opportunity, internationalization, and the pressure of entering into the World Trade Organization, asserted Wang (2005, p. 152). These challenges affected the entire educational system in Taiwan; consequently, the Ministry of Education implemented massive educational reform. As a result of this reform, teachers have been subjected to mandatory student evaluations for the first time in the tradition of Chinese culture as one means to improve teaching quality. The purpose of this research was to determine the attitude of college teachers toward students' ratings of instruction after the first seven years of mandated student evaluation for college teachers.

Research Question

The research question for this study was: What is the attitude of college of technology teachers about students' ratings of instruction in Taiwan? Generally, Taiwanese college teachers have a positive attitude towards student rating of instruction. More specifically, 62.4% of the respondents reported a general positive view that students' ratings of instruction are beneficial while 11.5% have a negative attitude, leaving 26.1% with no opinion. Further conclusions regarding specific components of this research question are reported below.

Null Hypotheses

Null Hypothesis 1

Null hypothesis 1 suggested there would be no experimentally important or consistent difference of predictability among colleges of technology teachers' attitudes toward students' ratings of instruction when using demographics as predictor variables.

Responses using region, gender, professional rank, academic degree, and total teaching years were tested for disproportionate frequency using the Chi-Square test. All responses by demographic variables resulted in a p-value greater than .05 except for one question in the area of academic degree. Analysis of Question 33 using academic degree resulted in a p-value meeting the *a priori* level of experimental consistency. Teachers with a doctoral degree had a lower number of negative responses than teachers with a bachelor's degree. There was no experimentally important or consistent differences predictability in the responses of college teachers using age, teaching years in current position, and total teaching years as predictor variables when Discriminate Functional Analysis was conducted.

College teachers with a doctoral degree had 18% difference more positive responses than college teachers with a bachelor's degree having experimental consistency less than α of .05; therefore, this null hypothesis was rejected and there was an experimentally important and consistent difference in teaching attitudes based upon degree of education attained by the respondent.

Null Hypothesis 2

Null hypothesis 2 suggested there would be no experimentally important or consistent difference of predictability among teachers' attitudes toward students' ratings

of instruction in colleges of technology when using the presence or absence of school policy or regulation regarding students' ratings of instruction as a predictor variable.

More than 93% of the colleges of technology had policies regarding the students' ratings of instruction. There was no experimentally important difference between the schools with or without policy/regulation regarding the students' ratings of instruction because all differences of percentage of frequency were less than 5% level of importance set *a priori*.

Therefore, there was a failure to reject this null hypothesis. College teachers did not have different attitudes between the schools with or without policy/regulation regarding the students' ratings of instruction.

Null Hypothesis 3

Null hypothesis 3 suggested there would be no experimentally important or consistent difference between college of technology teachers' attitudes and university teachers' attitudes toward students' ratings of instruction.

In order to model the methodology of Chang (2003) for the purposes of comparing this research to his, a two-sample t-test was conducted. No experimentally important difference was found between college teachers and university teachers in their responses to the individual questions or when the questions were categorized into five issues. Chang (2003) designed the questionnaire that was used for this research and categorized it into five issues. Those five issues are (a) the object of student evaluations, that is, the purposes for which student evaluations are utilized, (b) the content of student evaluations, that is, validity of the questions in the student evaluations, (c) teachers' value of student evaluations, that is, the importance of the student evaluations from the

teachers' perspective, (d) the negative effect of student evaluation, student evaluations may have negative effect to the teachers, and (e) the application of student evaluations, how does the college or university administrations and Ministry of Education use the results of student evaluations.

When frequency analysis and the Chi-Square test were conducted, 20 questions had an experimentally important difference greater than the 5% level of importance set *a priori*. Of those 20 questions, seven of the 20 questions also had an experimental consistency less than the α of .05 set a priori.

Further comparison using percentage of frequency between university teachers and college teachers in each question found that the percentages of frequency differences in 10 of the questions were greater than 10%. Nine differences of the 10 had a positive value, which means that the percentage of frequency among university teachers is greater than that of college teachers. Higher positive responses among college teachers were only in response to the question of student evaluations including the teacher-student relationship. The comparison revealed that university teachers had higher positive responses than college teachers regarding the students' ratings of instruction could influence teacher-student relationship.

Regarding the five issues, the issue of negative effect had an experimentally important difference and consistency of at least 5% that met the *a priori* level α of .05. The issue of application had an experimentally important difference but lacked a sufficient p-value to establish experimental consistency. This research found that university teachers generally had the same level of positive attitudes as college teachers

toward students' ratings of instruction with a somewhat more positive attitude in selected areas.

Therefore, there was a failure to reject this null hypothesis when using and based upon the methodology of Chang's (2003) research. College teachers did not have different attitudes toward students' ratings of instruction with university teachers based upon p-values calculated when comparing mean rank scores using a t-test.

However, one would reject this null hypothesis when using frequency and the Chi-Square test of analyses. University teachers tended to have higher positive responses toward students' ratings of instruction than did college teachers.

Other Relevant Findings

Attitude Questions

This research categorized 21 questions that generally reported on specific components of teachers' attitudes. Question 34 is a question directly representing teachers' attitudes. Sixty-two percent of the college teachers approved the system of students' ratings of instruction. However, on the average, less than half of the college teachers had positive responses to the questionnaires questions about attitudes. On the other hand, one-fifth of college teachers believed that students' ratings of instruction provided the opportunities for self-evaluation.

Comparison with Research on Universities

This research conducted with colleges of technology elicited similar results with Chang's (2003) research with universities. Concerning the attitude questions, both college teachers and universities teachers had higher positive responses that the students' ratings of instruction (a) would motive teachers to improve teaching, (b) would support

the teacher-student communication, (c) would encourage teachers to modify teaching based on the results, and (d) should be an comprehensive assessment of the whole teachers' instructions. Both college teachers and university teachers had higher negative responses about students' ratings of instruction when they considered that a good teacher might not get a high score from the student.

This research also found divergent results with Chang's (2003) research. University teachers had more (the percentage of frequency differences between university teachers and college teachers was greater than 10%) positive responses than college teachers regarding: (a) the possibility that students' ratings of instruction may decrease teachers' teaching enthusiasm, (b) students' ratings of instruction may have an effect on the teacher-student relationship, (c) students' ratings of instruction can be a reference for rewarding excellent teachers, and (d) the ratings can be a reference of re-employment. College teachers had more positive responses than university teachers about the scope of students' ratings of instruction indicating that they should include the teacher-student relationship.

Policy Regarding Students' Ratings of Instruction

This research found that more than 93% of the colleges of technology had policies regarding the students' ratings of instruction. The system of students' ratings of instruction was older in the universities than in the colleges. Chang (2000c) pointed out that 78% of the public universities and 91% of the private universities in Taiwan had implemented students' ratings system as of 1998. This research also found that 69 colleges, comprising 73% of the total colleges, had been newly established or reorganized between 1997 and 2003 (Table 4). Compared with universities, the system of students'

ratings of instruction at the college level was more recent; yet, more than 93% of the colleges had implemented students' ratings system by the year 2004.

Professional Rank and Academic Degree

The Ministry of Education in Taiwan encourages junior colleges to reorganize to colleges of technology and colleges of technology rename into technical universities. One of the criteria of reorganizing or renaming is the number of faculty at the rank of assistant professors or higher. The number of full-time teachers higher than the rank of assistant professor must be more than 40% of the total number of teachers for a college of technology to be renamed into a technical university (Ministry of Education, Verification Regulations of Governing the Renaming of Technical colleges into Technical Universities in Taiwan, 2004).

This research found that in colleges, half of the male teachers had a professional rank of assistant professor or higher, while one-fifth of the female teachers had a professional rank of assistant professor or higher. Male teachers tended to have a higher professional rank and met more of the criteria of that allowed institutions to be renamed into technical universities. However, three-fourths of the university teachers had a professional rank of assistant professor or higher. Advancement of academic degree is also one of the methods available to upgrade teachers' professional rank. This research found that male teachers of colleges also had higher academic degrees than female teachers with, for examples, males having three times more doctoral degrees than females. As a result, college teachers, especially females, are being pressured to upgrade their professional rank.

Who Will View the Results?

The differences in positive or negative attitudes among teachers, principal, deans of the departments, deans of the studies, or supervisors for personnel did not meet experimental importance of 5% or more that was set *a priori*. Teachers' attitudes toward students' ratings of instruction were not different regardless of who viewed the results.

Seriousness on Student Evaluations

College teachers believed that the administration and the students do not give equally serious consideration to student evaluations of teachers. Students complete the student evaluations of teaching quality, but if the teachers are correct and many students do not regard the student evaluations seriously, the results may be incorrect and will not fulfill the purposes of such evaluations. The results may also be inconsistent, and a good teacher may not receive a high score. Therefore, students' attitude toward evaluation of instructors is an important criterion for a successful student evaluation policy.

Summary

This research found that 62% of the college teachers had a positive perspective regarding student evaluations. However, only 46% of the college teachers reported positive responses for specific attitude questions in the questionnaire. The percentage of positive responses increased 5% from 46% to 51% when the most negative questions of (a) the results can be made public, (b) the results are consistent with teacher's expectations, and (c) a good teacher may not receive a high score were removed. The percentage of positive responses increased 5% again to 56% when the questions regarding teachers' job employment, upgrading, re-employment, and promotion were removed.

The findings of this research showed that college teachers believed that the results of students' ratings of instruction while powerful for teacher improvement might result in a good teacher receiving a pool score. Therefore, the teachers believed that the results should not be used as a reference for employment and should not be made public.

As previously stated, Chinese culture traditionally did not provide for students to challenge their teachers, much less evaluate them. After educational reforms, college teachers became accustomed to and have accepted the new policy with some very important qualifications. Such as, one-fifth of the college teachers believed that the students' ratings of instruction provided the opportunities for self-evaluation, three-fourths of the college teachers indicated that the students' ratings of instruction supported teacher-student communication, half of the college teachers reported that the students' ratings of instruction reflected on the teaching performance. With these qualification, college teachers value students' ratings of instruction in a way that is consistent with educational reform. Finally, university teachers have a somewhat more positive attitude about students' ratings of instruction than college teachers, possibly because this type of evaluation has been used in the universities longer. It is also possible that their experience with students' ratings of instruction has been positive and beneficial to improving the quality of teaching in the universities.

Recommendations

Application of the Results of Students' Ratings of Instruction

This research found Taiwanese college teachers, on the average, had a positive perspective toward the policy of students' ratings of instruction. However, they do believe that the students' ratings of instruction may have a negative effect if used as the

only objective measure of teaching quality. Student evaluations are subjective, based upon individual student perception of the classroom experiences, and as such, serve the greatest educational value when received by the faculty who was part of those classroom experiences. The dissatisfaction with student evaluations arises when a subjective paradigm is submitted to objective interpretation, such as publishing the results of the teacher evaluations or using them as criteria for promotion. More specifically, 84% of college teachers have a strong supportive attitude toward students' ratings of instruction when the results are used as a reference for teaching improvement and not made public or used for employment considerations.

School leaders and the Ministry of Education should carefully reevaluate utilization of students' ratings of instruction for use as a reference for upgrading, re-employment or promotion, and most importantly, refrain from making the results of the student evaluations public. Less than half of the college teachers had positive attitudes about teaching evaluation when the students' ratings of instruction are used for decisions affecting employment. However, more than half of the college teachers had positive attitudes about teaching evaluations from their students when the results were utilized by the teacher for educational improvement in the classroom. Eliminating administrative use of students' ratings of instruction could be expected to increase positive attitudes toward students' ratings by at least 10%.

Access to the Results of Students' Ratings of Instruction

Sixteen percent of the college teachers reported that they have never received the results of students' ratings of instruction. For the purpose of teaching improvement, schools should provide the results to the individual faculty. The benefit to teaching

improvement from students' ratings of instruction is seriously impeded when the students' evaluations are used only in an administrative capacity, particularly given that teachers reported their most positive perspective toward students' ratings existed when the ratings were used for their own improvement of classroom teaching.

Other Recommendations

The comparison of universities with colleges indicates that time will have only a small impact upon improving positive attitudes toward students' ratings of instruction and that the most substantial approach to improving teachers attitudes toward students' evaluations will be to remove or minimize the objective use of these evaluations.

A positive attitude toward students' evaluations was also correlated with those teachers holding a doctoral degree of education. This may indicate that such professors have a better understanding of what they teach and how to teach and therefore tend toward a less threatened perspective of these evaluations. However, teaches having differing degrees were in agreement on the dangers of using students' evaluations as object measures of teaching quality.

Quality teaching is not only teaching materials but also teaching methods and classroom atmosphere. Ninety percent of the college teachers believed that the students' ratings of instruction should also reflect evaluations pertaining to teaching methods. In addition, the majority of college teachers, 87%, believed that the students' ratings of instruction should include evaluation of teaching materials. Thus, the content of students' ratings of instruction should be expanded to reflect additional factors related to the quality of teaching.

Implications for Further Research

Student Attitudes about Teaching Evaluation

Teachers expressed concern that students may not take students' ratings of instruction seriously. If the teachers' perspective of students' disregard for students' rating of instruction is true, the evaluations will have a loss in value. Hence, college students' attitudes toward their evaluations are an important factor in this policy. Student attitudes toward rating their instructors are worthy of further investigation.

Process and Planning of Teaching Evaluation

College teachers believed that the results of students' ratings of instruction were inconsistent. Many factors will cause inconsistent results. Ye (1987) pointed out that only perfect planning and objective processes can make student evaluations succeed. Proper administrative planning may improve the consistency of students' ratings of instruction. Investigating the process of implementing students' ratings of instruction among colleges in Taiwan may be worth conducting.

Subject and Academic Levels of Students

Costin, Greenough, and Menges (1971) indicated that students at different levels may rate their courses differently, and that required and elective courses may be rated differently. College teachers responded to the open-ended questions that the questionnaire should be different according to different subjects. They also responded that students at higher academic levels are more mature when completing the student evaluation and the results of their evaluations are more reliable. Thus, the relationship between different subjects and students' ratings of instruction, and the relationship

between different academic levels of students and students' ratings of instruction are worthy of further investigation.

Teaching Quality Analyses

There are many arguments regarding student evaluations of teachers. If teachers have a positive attitude toward student evaluations, then the results can be a reference for improvement of teaching quality. However, more than half of the college teachers responded negatively regarding the use of the students rating of instruction when student evaluations of teachers were used not just for the improvement of teaching quality, but also for administrative decision making, particularly as related to promotion and other employment decisions. The respondents to this research indicated a positive desire to use the student evaluations for improvement of teaching quality but not as an objective measure of job performance.

Consideration of Chinese Culture and Student Evaluations

Overall, this study clearly points out that college teachers' attitudes toward students' ratings of instruction are open and subject to change if appropriate. This research found that college teachers have positive attitudes toward students' ratings of instruction, particularly when these ratings are used for self-improvement. Moreover, teachers demonstrated a willingness to accept a change in the ancient Chinese culture that regarded teachers in a way that previously discouraged evaluation by students if such evaluations result in educational improvement. This research concludes that the greatest positive contribution to educational improvement will result if these evaluations are interpreted and used by the teacher as a means of improving teacher performance while, on the other hand, extending the interpretation and utilization of these evaluations to an

objective level such as for use in promotion, hiring, upgrading, and dismissal will diminish their effectiveness as a means of improving education and thereby serving educational reform.

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APPENDIXES

Appendix A

Cover Letter for Dean of Studies of Participative College

Dear Dean of Studies,

I am a doctoral candidate in the Educational Leadership Department at The University of Montana in the United States. I am also a lecturer at The Chihlee College of Technology. For the fulfillment of my doctorate degree, I am conducting a study on teachers' attitudes toward student ratings of instruction in Taiwanese colleges.

The purpose of this study is to determine teachers' attitudes toward student ratings of instruction in colleges of technology subsequent to the 1996 educational reform in Taiwan. I will not evaluate any college or teachers in any way; rather, this research is intended to provide information to assist colleges of technology to improve instructional systems by better understanding student evaluations of instruction.

I would like to request of you that I be allowed to survey 30 to 40 of the teachers in your school. I do not have a list of the teachers at your school so I would like to request your voluntary assistance in distributing the packet containing the questionnaire to the teachers. If you agree to have your teachers available to participate, please prepare a list of your school's full-time teachers and assign to each teacher a sequential integer beginning with one. Included with this letter is a random list of 30 to 40 integers that are appropriate for the number of teachers in your school. Please distribute the packets to those teachers whose numbers you have assigned that corresponds to the list of numbers that I have provided for you. Teachers will return the questionnaire directly to me by mailing the self-addressed stamped envelopes.

After you have distributed the packets, please destroy both the list of teachers that you developed as well as the list of random numbers I have sent to you. Please check the appropriate boxes on the postage paid postcard that I have enclosed for you to complete and return to me through the mail.

The information obtained from your teachers will be anonymous and the results will be reported as aggregate data only. No individual names or identification of any school names will be used in any reporting of results. Your participation and that of the selected teachers will be voluntary and may be terminated at any point each person selected for participation in this research so chooses.

Thank you for your consideration to participate in this study.

If you have any additional questions regarding this study, please contact me at mayw@mail.chihlee.edu.tw, or call 02-2967-8475, or 0921-902-866(Taiwan).

Sincerely,

Yumei Wang

Doctoral student, The University of Montana

Lecturer of Chihlee Institute of Technology

Appendix B

Cover Letter for Teacher of Participation

Dear Educator,

I am a doctoral candidate in the Educational Leadership Department at The University of Montana in the United States. I am also a lecturer at The Chihlee College of Technology. For the fulfillment of my doctorate degree, I am conducting a study on teachers' attitudes toward student ratings of instruction in Taiwanese colleges.

The purpose of this study is to determine teachers' attitudes toward student ratings of instruction in colleges of technology subsequent to the 1996 educational reform in Taiwan. I will not evaluate any college or teachers in any way; rather, this research is intended to provide information to assist colleges of technology to improve instructional systems by better understanding student evaluations of instruction.

This study will use the "University Teachers' Attitudes Toward the Student Ratings of Instruction Survey" questionnaire as the survey instrument. Completion will take approximately 15 minutes.

The information obtained from you will be anonymous and the results will be reported as aggregate data only. No individual names or identification of any school names will be used in any reporting of results. Your participation will be voluntary. You may choose not to answer any question you wish and/or end your participation at any point.

If you agree to participate, please complete the enclosed survey at your earliest convenience and mail it to me in the attached self-addressed stamped envelope by September 10th, 2004. Please do not put your name or the school's name on the questionnaire or envelope. Thank you for your participation in this study.

If you have any additional questions regarding the study, please contact me at mayw@mail.chihlee.edu.tw, or call 02-2967-8475, or 0921-902-866(Taiwan).

Sincerely,

Yumei Wang
Doctoral student, The University of Montana
Lecturer of Chihlee Institute of Technology

Appendix C

University Teacher's Attitudes Toward the Student Ratings of Instruction Survey (in English)

UNIVERSITY TEACHERS' ATTITUDES TOWARD THE STUDENT RATINGS OF INSTRUCTION SURVEY

Te-Sheng Chang
National Hualien Teachers College

PLEASE MARK THE ONE BLANK SPACE FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT

I. Fundamental Information

A. Gender: (1). ☐ Male, (2). ☐ Female.

B. Which year you born? _____.

C. What is your title?

☐ (1). Professor, ☐ (2). Associate professor,

☐ (3). Assistant professor, ☐ (4). Instructor.

D. You have ☐ (1). Doctor, ☐ (2). Master, ☐ (3). Bachelor, ☐ (4). Others_____ degree.

E. Do you have foreign degree (including doctor, master and bachelor degree).

☐ (1). No, ☐ (2). Yes, which country? _____

F. What department? _____.

G. Including your current position, how many years do you teach in higher education?

_____ years and _____ months.

H. How many years do you teach in your school?_____ years and _____ months.

I. Generally, your class's ratio each semester is:

☐ (1). Required courses are more than selective courses.

☐ (2). Required courses are same with selective courses.

☐ (3). Required courses are less than selective courses.

☐ (4). Uncertain.

J. Generally, your class's ratio each semester is:

☐ (1). All of the courses are in my professional subject.

☐ (2). Most courses (more than 50%) are in my professional subject area.

☐ (3). Few courses (less that 50%) are in my professional subject area.

☐ (4). None of the courses are not in my professional subject.

☐ (5). Uncertain.

K. Generally, your classes are: (Big class is more than 30 students.)

☐ (1). All of the classes are big.

☐ (2). Most classes (more than 50%) are big.

☐ (3). Few classes (less that 50%) are big.

☐ (4). None of the class are not big.

☐ (5). Uncertain.

L. Your teaching methods are: (It can be more than one answer.)

☐ (1). Most are lecture.

☐ (2). Most are practical.

☐ (3). Most are discussion and written submissions.

☐ (4). Most are practical training and visit.

☐ (5). Others (please describe)_____.

M. Have you been evaluated by students? ☐ (1). No, ☐ (2). Yes.

N. Have you been evaluated your teaching among your class?

☐ (1). Do it on each course.

☐ (2). Only on new courses.

☐ (3). Had been done, but not now (please describe the reason)_____.

☐ (4). Never did it.

☐ (5). Do it when it is necessary.

O. Do you evaluate your teaching on your class after school implementing the teaching evaluation? ☐ (1). Yes, ☐ (2). No,

☐ (3). Depend on (please describe) _____.

P. Does your school have policy or regulation regarding student rating of instruction?

☐ (1). Yes, ☐ (2). No, ☐ (3). I am not sure.

Q. How do you know the policy or regulation regarding student ratings of instruction?

☐ (1). Accompaniment with the results of student ratings of instruction,

☐ (2). Public prints, ☐ (3). Never know that,

☐ (4). Others (please describe)_____.

R. Who will see the results of student ratings of instruction? (multiple choices)

☐ (1). Individual teachers, ☐ (2). Dean of department, ☐ (3). Dean of studies,

☐ (4). Principal, ☐ (5). Supervisor of personnel,

☐ (6). Others (please describe) _____.

II. The Attitude Toward Student Ratings of Instructions.

PLEASE MARK THE ONE BLANK SPACE FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
1. Student ratings of instruction can motivate teachers to improve teaching.	☐	☐	☐	☐	☐
2. Student ratings of instruction can provide the opportunity of democratic training for teachers and students.	☐	☐	☐	☐	☐
3. Student ratings of instruction can support teaching communication between teachers and students.	☐	☐	☐	☐	☐
4. Student ratings of instruction can reflect teaching performance.	☐	☐	☐	☐	☐
5. Student ratings of instruction can be a reference for teachers' upgrade.	☐	☐	☐	☐	☐
6. Student ratings of instruction can elevate students' learning motivation.	☐	☐	☐	☐	☐
7. Student ratings of instruction can provide teachers the opportunities for self-evaluation.	☐	☐	☐	☐	☐
8. You pay much attention to the results of student ratings of instruction personal.	☐	☐	☐	☐	☐
9. You think that school pays much attention on the results of student ratings of instruction.	☐	☐	☐	☐	☐
10. You think that students pay much attention on the results of student ratings of instruction.	☐	☐	☐	☐	☐
11. You think the administration departments in school pay much attention to the results of student ratings of instruction.	☐	☐	☐	☐	☐
12. You think teachers will modify teaching based on the results of student ratings of instruction.	☐	☐	☐	☐	☐
13. The scope of student ratings of instruction should include teachers' personal character.	☐	☐	☐	☐	☐
14. The scope of student ratings of instruction should include teachers' teaching materials.	☐	☐	☐	☐	☐

PLEASE MARK THE ONE BLANK SPACE FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
15. The scope of student ratings of instruction should include the relationship between teachers and students.	☐	☐	☐	☐	☐
16. The scope of student ratings of instruction should include teachers' teaching methods.	☐	☐	☐	☐	☐
17. The scope of student ratings of instruction should include the grading or assessment of students' outcome.	☐	☐	☐	☐	☐
18. The scope of student ratings of instruction should include students' self-assessment.	☐	☐	☐	☐	☐
19. The scope of student ratings of instruction should include students' grade point average.	☐	☐	☐	☐	☐
20. The scope of student ratings of instruction should assess the whole teachers' instructions.	☐	☐	☐	☐	☐
21. The scope of student ratings of instruction should include the whole subject.	☐	☐	☐	☐	☐
22. Student ratings of instructions will make the relationship between teachers and students tense.	☐	☐	☐	☐	☐
23. A good teacher may not get a high score of the student ratings of instruction.	☐	☐	☐	☐	☐
24. Student ratings of instruction may decrease teachers' teaching enthusiasm.	☐	☐	☐	☐	☐
25. The results of student ratings of instruction are consistent with teacher expectations.	☐	☐	☐	☐	☐
26. Student ratings of instructions will cause teachers lower their course requirements.	☐	☐	☐	☐	☐
27. Student ratings of instruction will affect the relationship between teachers and students.	☐	☐	☐	☐	☐
28. The results of student ratings of instruction should notify teacher individually for the reference of improving personal teaching.	☐	☐	☐	☐	☐

PLEASE MARK THE ONE BLANK SPACE FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
29. The results of student ratings of instruction can be a reference of rewarding of excellent teachers.	☐	☐	☐	☐	☐
30. The results of student ratings of instruction can be a reference of re-employ.	☐	☐	☐	☐	☐
31. The results of student ratings of instruction can be a reference for promotion.	☐	☐	☐	☐	☐
32. The results of student ratings of instruction can be a reference for students selecting a course.	☐	☐	☐	☐	☐
33. The results of student ratings of instruction can be notified on school's publishing.	☐	☐	☐	☐	☐
34. In general, student ratings of instruction are beneficial.	☐	☐	☐	☐	☐

35. Do you have any suggestions about student ratings of instruction? It includes the content of student ratings of instructions, methods of implement, applying, policy, and et al., please describe on the below. Thank you.

_____

_____

_____

_____

_____

_____

Thank you again for your cooperation.

Appendix D

University Teacher's Attitudes Toward

the Student Ratings of Instruction Survey

(in Chinese)

大學教師對「學生評鑑教師教學」態度調查問卷

一、 基本資料

填寫說明：請在適合您個人情況的□的內打ˇ ；或在_____上填註資料。

1.性別：□ (1)男 □ (2)女

2.您是民國_____年出生

3.職稱：□ (1)教授 □ (2)副教授 □ (3)助理教授 □ (4)講師

4.最高學歷：□ (1)博士 □ (2)碩士 □ (3)學士 □ 4.其他(請註明)_____

5 擁有國外學位（含博士、碩士或學士）:□ (1)沒有 □ (2)有(請註明國別)_____

6.您任教的系所是：_____

7.含在本校服務年資在內，您在大專院校的教學年資總共是_____年_____月

8.您在本校任教年資是_____年_____月

9.一般而言，您每學期開課情況是：

□ (1)必修科目比選修科目多 □ (2)必修課科目和選修科目一樣多

□ (3)必修科目比選修科目少 □ (4)不一定

10.一般而言，您每學期開課的科目是：

□ (1)全部都是您的專長領域 □ (2)大部份(50%以上)是專長領域

□ (3)少部份(50%以下)是專長領域 □ (4)全部都不是專長領域

□ (5)不一定

11.一般而言，您上課的班級是：(大班級是指30人以上)

□ (1)全部都是大班級 □ (2)大部份(50%以上)是大班級

□ (3)少部份(50%以下)是大班級 □ (4)全部的都不是大班級

□ (5)不一定

12.下列哪一些是您上課的方式：(可複選)

□ (1)教師講述法居多　　□ (2)實地操作居多

□ (3)學生分組報告討論居多　　□ (4)參觀實習居多

□ (5)其他(請寫明)_____

13.您曾接受學生評鑑教學的經驗　□ (1)沒有　□ (2)有

14.在您自己開授的課程中，是否曾自己進行教學評鑑

□ (1)有開課必做　　□ (2)對新開的課才做

□ (3)以前曾做，現在不做（請說明現在不做的原因）_____

□ (4)從未做過　　□ (5)有需要才做

15.學校進行教學評鑑之後，您是否針對自己開設課程另外進行評鑑(如：自己設計問卷)

□ (1)是　□ (2)否　□ (3)視情況而定(請註明) _____

16. 您任教的學校是否有學生評鑑教師教學的相關措施或辦法

□ (1)是　□ (2)否　□ (3)不確定

17. 您從何處得知有關學生評鑑教師教學的相關措施或辦法

□ (1)會伴隨學生評鑑教師教學的結果

□ (2)公開的訊息　　□ (3)從不知道該訊息

□ (4)其他(請註明) _____

18. 誰會看到有關學生評鑑教師教學的結果(可複選)

□ (1)被評鑑教師本人　□ (2)系科主任　□ (3)教務長

□ (4)校長　□ (5)人事主任其他教師　□ (6)其他(請註明) _____

二、對「學生評鑑教師教學」的態度

填寫說明：

1、請依照您對「學生評鑑教師教學」的看法，在第1-34題適當的□ 的內打ˇ 。

2、請將您對學生評鑑教師教學的建議，在第35題分別條列說明。

	非常同意	同意	無意見	不同意	非常不同意
1.學生評鑑教師教學能夠激勵教師改進教學。	□	□	□	□	□
2.學生評鑑教師教學是提供師生民主訓練的機會。	□	□	□	□	□
3.學生評鑑教師教學可以增進師生在教學上的溝通。	□	□	□	□	□
4.學生評鑑教師教學可以反映教師的教學績效。	□	□	□	□	□
5.學生評鑑教師教學可以用來做為教師升等之參考。	□	□	□	□	□
6.學生評鑑教師教學可以提高學生學習的動機。	□	□	□	□	□
7.學生評鑑教師教學可以提供教師自我評鑑的機會。	□	□	□	□	□
8.您個人重視學生評鑑教師教學的結果。	□	□	□	□	□
9.您認為學校教師重視學生評鑑教師教學的結果。	□	□	□	□	□
10.您認為學校學生重視學生評鑑教師教學的結果。	□	□	□	□	□
11.您認為學校行政部門重視學生評鑑教師教學的結果。	□	□	□	□	□
12.您認為教師將依據學生評鑑教師教學的結果來改進教學。	□	□	□	□	□
13.學生評鑑教師教學的內容，應涵蓋教師個人特質。	□	□	□	□	□
14.學生評鑑教師教學的內容，應涵蓋教師的教材內容。	□	□	□	□	□
15.學生評鑑教師教學的內容，應涵蓋師生關係。	□	□	□	□	□
16.學生評鑑教師教學的內容，應涵蓋教師的教學方法。	□	□	□	□	□
17.學生評鑑教師教學的內容，應涵蓋教師對學生學習的評量。	□	□	□	□	□
18.學生評鑑教師教學的內容，應涵蓋學生自我評量。	□	□	□	□	□
19.學生評鑑教師教學的內容，應涵蓋學生的學學業成績。	□	□	□	□	□
20.學生評鑑教師教學的內容，應涵蓋對教師教學整體性的評量。	□	□	□	□	□

	非常同意	同意	無意見	不同意	非常不同意
21.學生評鑑教師教學的內容，應涵蓋對科目整體性的評量。.....	□	□	□	□	□
22.學生評鑑教師教學可能讓教師之間關係緊張。.....	□	□	□	□	□
23.教學認真的的老師不一定得到高的學生評鑑分數。.....	□	□	□	□	□
24.學生評鑑教師教學可能會降低教師的教學熱忱與工作士氣。	□	□	□	□	□
25.學生評鑑教師教學的結果可能不一致，導致教師無所依循。...	□	□	□	□	□
26.學生評鑑教師教學會使教師降低對學生的要求。.....	□	□	□	□	□
27.學生評鑑教師教學會影響師生之間的感情。.....	□	□	□	□	□
28.學生評鑑教師教學的結果要個別通知教師，做為改進教學的參考。.....	□	□	□	□	□
29.學生評鑑教師教學的結果可做為獎勵教學優良教師的參考。	□	□	□	□	□
30.學生評鑑教師教學的結果可做為教師續聘的參考資料。.....	□	□	□	□	□
31.學生評鑑教師教學的結果可做為學校教師升遷的參考資料。	□	□	□	□	□
32.學生評鑑教師教學的結果可做為學生選課的參考資料。.....	□	□	□	□	□
33.學生評鑑教師教學的結果可公佈在學校刊物上。.....	□	□	□	□	□
34.整體而言，學生評鑑教師的措施是值得肯定的。.....	□	□	□	□	□

35.無論貴校或貴系所是否已實施學生評鑑教師教學，您對學生評鑑教師教學有任何其他意見嗎？包含教學反映意見表的內容、實施方式、應用、辦法等，請將您寶貴的意見提供在以下的空格裡。謝謝！

_____

_____

_____

_____

_____

再一次感謝您的合作!

Appendix E

Responses of Each Question

in the Part I of Questionnaire

A. Gender: (1). 376 (60.5%) Male, (2). 246 (39.5) Female. N=622

B. Which year you born? Average age, Male: 44, Female: 42.

C. What is your title?

20 (3.2%) (1). Professor, 122 (19.6%) (2). Associate professor,

92 (14.8%) (3). Assistant professor, 389 (62.4%) (4). Instructor. N=623

D. You have 189 (30.3%) (1). Doctor, 392 (62.8%) (2). Master,

37 (5.9%) (3). Bachelor, 6 (1.0%) (4). Others degree. N=624

E. Do you have foreign degree (including doctor, master and bachelor degree).

368 (61.5%) (1). No, 230 (38.5%) (2). Yes, which country? N=598

F. What department? _____.

G. Including your current position, how many years do you teach in higher education?
Average, Male: 2 years, Female: 2 years.

H. How many years do you teach in your school?
Average, Male: 9 years, Female: 11 years..

I. Generally, your class's ratio each semester is:

447 ((71.6%) (1). Required courses are more than selective courses.

35 (5.6%) (2). Required courses are same with selective courses.

41 (6.6%) (3). Required courses are less than selective courses.

101 (16.2%) (4). Uncertain.

J. Generally, your class's ratio each semester is:

348 (55.6%) (1). All of the courses are in my professional subject.

232 (37.1%) (2). Most courses (more than 50%) are in my professional subject area.

30 (4.8%) (3). Few courses (less that 50%) are in my professional subject area.

3 (0.5%) (4). None of the courses are not in my professional subject.

13 (2.1%) (5). Uncertain. N=626

K. Generally, your classes are: (Big class is more than 30 students.)

358 (57.2%) (1). All of the classes are big.

165 (26.4%) (2). Most classes (more than 50%) are big.

43 (6.9%) (3). Few classes (less that 50%) are big.

44 (7.0%) (4). None of the class are not big.

16 (2.6%) (5). Uncertain. N=626

L. Your teaching methods are: (It can be more than one answer.)

564 (90.1%) (1). Most are lecture.

192 (30.7%) (2). Most are practical.

166 (26.5%) (3). Most are discussion and written submissions.

16 (2.6%) (4). Most are practical training and visit.

14 (2.2%) (5). Others. N=626

M. Have you been evaluated by students?

36 (5.8%) (1). No, 581 (94.2%) (2). Yes. N=617

N. Have you been evaluated your teaching among your class?

125 (20.2%) (1). Do it on each course.

40 (6.5%) (2). Only on new courses.

42 (6.8%) (3). Had been done, but not now (please describe the reason) ____.

222 (35.9%) (4). Never did it.

189 (30.6%) (5). Do it when it is necessary. N=618

O. Do you evaluate your teaching on your class after school implementing the teaching evaluation? 66 (10.7%) (1). Yes, 481 (78.1%) (2). No,

69 (11.2%) (3). Depend on (please describe) _____. N=616

P. Does your school have policy or regulation regarding student rating of instruction?

580 (93.4%) (1). Yes, 12 (1.9%) (2). No, 29 (4.7%) (3). I am not sure. N=621

Q. How do you know the policy or regulation regarding student ratings of instruction?

303 (49.5%) (1). Accompaniment with the results of student ratings of instruction,

155 (35.3%) (2). Public prints, 127 (20.8%) (3). Never know that,

27 (4.4%) (4). Others (please describe)_____. N=612

R. Who will see the results of student ratings of instruction? (multiple choices)

522 (83.4%) (1). Individual teachers, 395 (63.1%) (2). Dean of department,

44 (7.0%) (3). Dean of studies,

252 (40.3%) (4). Principal,

179 (28.6%) (5). Supervisor of personnel,

23 (3.7%) (6). Others (please describe) _____. N=626

Appendix F

Frequency of Questions Regarding Teachers' Attitude

Question	Strongly Agree	Agree	No Opin	Disagree	Strongly Dis.	Total
1. Motivate teachers to improve teaching	86	389	77	55	14	621
	13.8%	62.6%	12.4%	8.9%	2.3%	100%
2. Provide the opportunity of democratic training for teachers and students.	62	361	113	67	19	622
	10.0%	58.0%	18.2%	10.8%	3.1%	100%
3. Support teaching communication between teachers and students.	76	386	91	58	11	622
	12.2%	62.1%	14.6%	9.3%	1.8%	100%
4. Reflect teaching performance.	50	249	139	150	29	617
	8.1%	40.4%	22.5%	24.3%	4.7%	100%
5. Be a reference for teachers' upgrade.	25	146	175	210	64	620
	4.0%	23.5%	28.2%	33.9%	10.3%	100%
6. Elevate students' learning motivation.	19	134	171	244	51	619
	3.1%	21.6%	27.6%	39.4%	8.2%	100%
7. Provide teachers the opportunities for self-evaluation.	76	422	84	29	9	620
	12.3%	68.1%	13.5%	4.7%	1.5%	100%

Question	S Agree	Agree	No Opin	DA	S Dis.	Total
8. You pay much attention to the results personal.	91	371	112	38	9	621
	14.7%	59.7%	18.0%	6.1%	1.4%	100%
12. Teachers will modify teaching based on the results	43	342	151	74	9	619
	6.9%	55.3%	24.4%	12.0%	1.5%	100%
20. Scope should assess the whole teachers' instructions	120	421	71	8	1	621
	19.3%	67.8%	11.4%	1.3%	0.2%	100%
22. Will make the relationship between teachers and students tense	16	134	233	199	40	622
	2.6%	21.5%	37.5%	32.0%	6.4%	100%
23. Good teacher may not get a high score	3	20	54	315	230	622
	0.5%	3.2%	8.7%	50.6%	37.0%	100%
24. May decrease teachers teaching enthusiasm	17	144	178	234	47	620
	2.7%	23.2%	28.7%	37.7%	7.6%	100%
25. Results are consistent with teacher expectations	6	101	167	275	73	622
	1.0%	16.2%	26.8%	44.2%	11.7%	100%

Question	S Agree	Agree	No Opin	DA	S Dis.	Total
26. Will cause teachers lower their course requirements	10	155	152	241	63	621
	1.6%	25.0%	24.5%	38.8%	10.1%	100%
28. Results should notify teacher individually for the reference of improving personal teaching	127	395	86	10	1	619
	20.5%	63.8%	13.9%	1.6%	0.2%	100%
29. Results can be a reference of rewarding of excellent teachers	47	254	178	112	31	622
	7.6%	40.8%	28.6%	18.0%	5.0%	100%
30. Results can be a reference of re-employ	21	139	213	173	76	622
	3.4%	22.3%	34.2%	27.8%	12.2%	100%
31. Results can be a reference for promotion	22	149	217	169	63	620
	3.5%	24.0%	35.0%	27.3%	10.2%	100%
32. Results of can be a reference for students selecting a course	25	219	202	142	32	620
	4.0%	35.3%	32.6%	22.9%	5.2%	100%
33. Results can be notified on school's publishing	13	73	147	238	150	621
	2.1%	11.8%	23.7%	38.3%	24.2%	100%

Question	S Agree	Agree	No Opin	DA	S Dis.	Total
Frequency of total Attitude	955	5,004	3,011	3,041	1,022	13,033
	7.3%	38.4%	23.1%	23.3%	7.8%	100%
34. In general, student ratings of instructions are beneficial	65	322	162	48	23	620
	10.5%	51.9%	26.1%	7.7%	3.7%	100%

Appendix G

Percentage of Frequency Distribution

and

p-Vale of Chi-Square Test

Based upon Region

Questions		Q1	Q2	Q3	Q4	Q5	Q6	Q7
Levels					L 1	L 2	L2	
North	Negative	27	37	33	80	122	134	16
		9.9%	13.6%	12.1%	29.3%	44.9%	49.4%	5.9%
	No Opinion	35	43	39	59	76	75	33
		12.9%	15.8%	14.3%	21.6%	27.9%	27.7%	12.1%
	Positive	210	193	201	134	74	62	223
		77.2%	70.7%	73.6%	49.1%	27.2%	22.9%	82.0%
	N	272	273	273	273	272	271	272
Middle	Negative	17	14	10	26	41	39	11
		17.2%	14.1%	10.1%	26.5%	41.8%	39.4%	11.2%
	No Opinion	12	18	19	27	30	32	14
		12.1%	18.2%	19.2%	27.6%	30.6%	32.3%	14.3%
	Positive	70	67	70	45	27	28	73
		70.7%	67.7%	70.7%	45.9%	27.6%	28.3%	74.5%
	N	99	99	99	98	98	99	98
South	Negative	20	30	23	59	94	97	10
		10.0%	15.0%	11.5%	29.9%	47.0%	48.7%	5.0%
	No Opinion	29	46	29	45	52	56	32
		14.5%	23.0%	14.5%	22.8%	26.0%	28.1%	16.0%
	Positive	151	124	148	93	54	46	158
		75.5%	62.0%	74.0%	47.2%	27.0%	23.1%	79.0%
	N	200	200	200	197	200	199	200
East	Negative	5	5	3	14	17	25	1
		10.0%	10.0%	6.0%	28.6%	34.0%	50.0%	2.0%
	No Opinion	1	6	4	8	17	8	5
		2.0%	12.0%	8.0%	16.3%	34.0%	16.0%	10.0%
	Positive	44	39	43	27	16	17	44
		88.0%	78.0%	86.0%	55.1%	32.0%	34.0%	88.0%
	N	50	50	50	49	50	50	50
Total	Negative	69	86	69	179	274	295	38
		11.1%	13.8%	11.1%	29.0%	44.2%	47.7%	6.1%
	No Opinion	77	113	91	139	175	171	84
		12.4%	18.2%	14.6%	22.5%	28.2%	27.6%	13.5%
	Positive	475	423	462	299	171	153	498
		76.5%	68.0%	74.3%	48.5%	27.6%	24.7%	80.3%
	N	621	622	622	617	620	619	620
p-value of Chi-Square		0.023	0.349	0.196	0.662	0.665	0.113	0.118

Questions		Q8	Q9	Q10	Q11	Q12	Q13	Q14
	Levels							
North	Negative	15	34	83	34	33	32	6
		5.5%	12.5%	30.5%	12.5%	12.1%	11.8%	2.2%
	No Opinion	48	93	117	99	62	59	26
		17.6%	34.2%	43.0%	36.4%	22.8%	21.7%	9.6%
	Positive	209	145	72	139	177	181	240
		76.8%	53.3%	26.5%	51.1%	65.1%	66.5%	88.2%
	N	272	272	272	272	272	272	272
Middle	Negative	13	11	31	10	15	12	4
		13.1%	11.1%	31.3%	10.1%	15.3%	12.1%	4.0%
	No Opinion	17	38	37	39	29	20	15
		17.2%	38.4%	37.4%	39.4%	29.6%	20.2%	15.2%
	Positive	69	50	31	50	54	67	80
		69.7%	50.5%	31.3%	50.5%	55.1%	67.7%	80.8%
	N	99	99	99	99	98	99	99
South	Negative	15	26	60	26	30	20	3
		7.5%	13.0%	30.0%	13.1%	15.1%	10.0%	1.5%
	No Opinion	40	70	93	69	54	46	20
		20.0%	35.0%	46.5%	34.7%	27.1%	23.0%	10.0%
	Positive	145	104	47	104	115	134	177
		72.5%	52.0%	23.5%	52.3%	57.8%	67.0%	88.5%
	N	200	200	200	199	199	200	200
East	Negative	4	5	11	2	5	6	1
		8.0%	10.0%	22.0%	4.0%	10.0%	12.0%	2.0%
	No Opinion	7	26	19	27	6	12	3
		14.0%	52.0%	38.0%	54.0%	12.0%	24.0%	6.0%
	Positive	39	19	20	21	39	32	46
		78.0%	38.0%	40.0%	42.0%	78.0%	64.0%	92.0%
	N	50	50	50	50	50	50	50
Total	Negative	47	76	185	72	83	70	14
		7.6%	12.2%	29.8%	11.6%	13.4%	11.3%	2.3%
	No Opinion	112	227	266	234	151	137	64
		18.0%	36.6%	42.8%	37.7%	24.4%	22.1%	10.3%
	Positive	462	318	170	314	385	414	543
		74.4%	51.2%	27.4%	50.6%	62.2%	66.7%	87.4%
	N	621	621	621	620	619	621	621
p-value of Chi-Square		0.498	0.193	0.207	0.060	0.026	0.993	0.364

Questions		Q15	Q16	Q17	Q18	Q19	Q20	Q21
	Levels							
North	Negative	12	5	14	6	29	7	7
		4.4%	1.8%	5.1%	2.2%	10.6%	2.6%	2.6%
	No Opinion	47	23	30	26	54	35	37
		17.2%	8.4%	11.0%	9.6%	19.8%	12.9%	13.7%
	Positive	214	245	229	240	190	230	226
		78.4%	89.7%	83.9%	88.2%	69.6%	84.6%	83.7%
	N	273	273	273	272	273	272	270
Middle	Negative	7	0	2	6	16	1	2
		7.1%	0.0%	2.0%	6.1%	16.2%	1.0%	2.0%
	No Opinion	25	15	17	21	27	18	15
		25.3%	15.2%	17.2%	21.4%	27.3%	18.2%	15.2%
	Positive	67	84	80	71	56	80	82
		67.7%	84.8%	80.8%	72.4%	56.6%	80.8%	82.8%
	N	99	99	99	98	99	99	99
South	Negative	12	2	2	5	23	0	1
		6.1%	1.0%	1.0%	2.5%	11.5%	0.0%	0.5%
	No Opinion	35	16	23	22	35	15	22
		17.8%	8.0%	11.5%	11.0%	17.5%	7.5%	11.0%
	Positive	150	182	175	173	142	185	177
		76.1%	91.0%	87.5%	86.5%	71.0%	92.5%	88.5%
	N	197	200	200	200	200	200	200
East	Negative	4	1	1	0	2	1	1
		8.0%	2.0%	2.0%	0.0%	4.0%	2.0%	2.0%
	No Opinion	9	4	3	4	7	3	6
		18.0%	8.0%	6.0%	8.0%	14.0%	6.0%	12.0%
	Positive	37	45	46	46	41	46	43
		74.0%	90.0%	92.0%	92.0%	82.0%	92.0%	86.0%
	N	50	50	50	50	50	50	50
Total	Negative	35	8	19	17	70	9	11
		5.7%	1.3%	3.1%	2.7%	11.3%	1.4%	1.8%
	No Opinion	116	58	73	73	123	71	80
		18.7%	9.3%	11.7%	11.8%	19.8%	11.4%	12.9%
	Positive	468	556	530	530	429	541	528
		75.6%	89.4%	85.2%	85.5%	69.0%	87.1%	85.3%
	N	619	622	622	620	622	621	619
p-value of Chi-Square		0.635	0.398	0.117	0.004	0.011	0.067	0.907

Questions		Q22	Q23	Q24	Q25	Q26	Q27	Q28
Levels		L2	L3	L2	L3	L2		
North	Negative	100	234	116	140	131	77	4
		36.6%	85.7%	42.8%	51.3%	48.5%	28.4%	1.5%
	No Opinion	104	27	77	77	67	106	30
		38.1%	9.9%	28.4%	28.2%	24.8%	39.1%	11.1%
	Positive	69	12	78	56	72	88	236
		25.3%	4.4%	28.8%	20.5%	26.7%	32.5%	87.4%
	N	273	273	271	273	270	271	270
Middle	Negative	42	85	48	52	48	25	3
		42.4%	85.9%	48.5%	52.5%	48.5%	25.3%	3.0%
	No Opinion	33	8	30	28	22	46	23
		33.3%	8.1%	30.3%	28.3%	22.2%	46.5%	23.2%
	Positive	24	6	21	19	29	28	73
		24.2%	6.1%	21.2%	19.2%	29.3%	28.3%	73.7%
	N	99	99	99	99	99	99	99
South	Negative	79	183	101	129	105	58	2
		39.5%	91.5%	50.5%	64.5%	52.2%	28.9%	1.0%
	No Opinion	75	15	51	46	45	75	28
		37.5%	7.5%	25.5%	23.0%	22.4%	37.3%	13.9%
	Positive	46	2	48	25	51	68	171
		23.0%	1.0%	24.0%	12.5%	25.4%	33.8%	85.1%
	N	200	200	200	200	201	201	201
East	Negative	18	43	16	27	20	8	2
		36.0%	86.0%	32.0%	54.0%	40.0%	16.0%	4.1%
	No Opinion	21	4	20	16	17	23	5
		42.0%	8.0%	40.0%	32.0%	34.0%	46.0%	10.2%
	Positive	11	3	14	7	13	19	42
		22.0%	6.0%	28.0%	14.0%	26.0%	38.0%	85.7%
	N	50	50	50	50	50	50	49
Total	Negative	239	545	281	348	304	168	11
		38.4%	87.6%	45.3%	55.9%	49.0%	27.1%	1.8%
	No Opinion	233	54	178	167	151	250	86
		37.5%	8.7%	28.7%	26.8%	24.4%	40.3%	13.9%
	Positive	150	23	161	107	165	203	522
		24.1%	3.7%	26.0%	17.2%	26.6%	32.7%	84.3%
	N	622	622	620	622	620	621	619
p-value of Chi-Square		0.926	0.603	0.120	0.400	0.472	0.279	0.079

Questions		Q29	Q30	Q31	Q32	Q33	Q34	Total
Levels			L2	L2	L1	L3		
North	Negative	63	111	104	82	176	36	2,140
		23.2%	40.8%	38.4%	30.4%	64.7%	13.3%	23.1%
	No Opinion	73	95	91	84	64	62	2,073
		26.8%	34.9%	33.6%	31.1%	23.5%	22.9%	22.4%
	Positive	136	66	76	104	32	173	5,032
		50.0%	24.3%	28.0%	38.5%	11.8%	63.8%	54.4%
	N	272	272	271	270	272	271	9,245
Middle	Negative	18	37	38	29	58	11	782
		18.2%	37.4%	38.4%	29.3%	58.6%	11.1%	23.3%
	No Opinion	39	36	34	32	30	34	880
		39.4%	36.4%	34.3%	32.3%	30.3%	34.3%	26.2%
	Positive	42	26	27	38	11	54	1,699
		42.4%	26.3%	27.3%	38.4%	11.1%	54.5%	50.6%
	N	99	99	99	99	99	99	3,361
South	Negative	54	81	76	54	127	22	1,629
		26.9%	40.3%	38.0%	26.9%	63.5%	11.0%	24.0%
	No Opinion	56	67	68	69	41	57	1,542
		27.9%	33.3%	34.0%	34.3%	20.5%	28.5%	22.7%
	Positive	91	53	56	78	32	121	3,626
		45.3%	26.4%	28.0%	38.8%	16.0%	60.5%	53.3%
	N	201	201	200	201	200	200	6,797
East	Negative	8	20	14	9	27	2	328
		16.0%	40.0%	28.0%	18.0%	54.0%	4.0%	19.3%
	No Opinion	10	15	24	17	12	9	378
		20.0%	30.0%	48.0%	34.0%	24.0%	18.0%	22.3%
	Positive	32	15	12	24	11	39	992
		64.0%	30.0%	24.0%	48.0%	22.0%	78.0%	58.4%
	N	50	50	50	50	50	50	1,698
Total	Negative	143	249	232	174	388	71	4,879
		23.0%	40.0%	37.4%	28.1%	62.5%	11.5%	23.1%
	No Opinion	178	213	217	202	147	162	4,873
		28.6%	34.2%	35.0%	32.6%	23.7%	26.1%	23.1%
	Positive	301	160	171	244	86	387	11,349
		48.4%	25.7%	27.6%	39.4%	13.8%	62.4%	53.8%
	N	622	622	620	620	621	620	21,101
p-value of Chi-Square		0.018	0.962	0.367	0.501	0.237	0.017	

Appendix H

Percentage of Frequency Distribution

And

p-Value of Chi-Square Test

Based upon Gender

Questions		Q1	Q2	Q3	Q4	Q5	Q6	Q7
Levels					L 1	L 2	L2	
Male	Negative	41	56	38	105	162	167	21
		11.0%	15.0%	10.2%	28.1%	43.3%	44.7%	5.6%
	No Opinion	40	53	51	70	97	101	44
		10.7%	14.2%	13.6%	18.9%	26.1%	27.1%	11.8%
	Positive	293	265	285	195	113	105	307
		78.3%	70.9%	76.2%	52.7%	30.4%	28.2%	82.5%
	N	374	374	374	370	372	373	372
Female	Negative	28	30	31	73	111	127	17
		11.5%	12.3%	12.8%	30.0%	45.7%	52.3%	7.0%
	No Opinion	36	59	38	68	77	69	39
		14.8%	24.2%	15.6%	28.0%	31.6%	28.5%	16.0%
	Positive	179	155	175	102	56	46	188
		73.7%	63.5%	71.7%	42.0%	23.0%	19.0%	77.0%
	N	243	244	244	243	244	242	244
Total	Negative	69	86	69	178	273	294	38
		11.2%	13.9%	11.2%	29.0%	44.3%	47.8%	6.2%
	No Opinion	76	112	89	138	174	170	83
		12.3%	18.1%	14.4%	22.5%	28.2%	27.6%	13.5%
	Positive	472	420	460	297	169	151	495
		76.5%	68.0%	74.4%	48.5%	27.4%	24.6%	80.4%
	N	617	618	618	613	616	615	616
p-value of Chi-Square		0.648	0.198	0.731	0.231	0.462	0.308	0.634

Questions		Q8	Q9	Q10	Q11	Q12	Q13	Q14
	Levels							
Male	Negative	33	41	104	40	50	38	5
		8.8%	11.0%	27.8%	10.7%	13.4%	10.2%	1.3%
	No Opinion	59	127	154	136	85	73	33
		15.8%	34.0%	41.2%	36.5%	22.9%	19.5%	8.8%
	Positive	282	206	116	197	236	263	336
		75.4%	55.1%	31.0%	52.8%	63.6%	70.3%	89.8%
	N	374	374	374	373	371	374	374
Female	Negative	14	35	81	32	33	31	9
		5.8%	14.4%	33.3%	13.2%	13.6%	12.8%	3.7%
	No Opinion	52	99	110	97	65	62	30
		21.4%	40.7%	45.3%	39.9%	26.6%	25.5%	12.3%
	Positive	177	109	52	114	146	150	204
		72.8%	44.9%	21.4%	46.9%	59.8%	61.7%	84.0%
	N	243	243	243	243	244	243	243
Total	Negative	47	76	185	72	83	69	14
		7.6%	12.3%	30.0%	11.7%	13.5%	11.2%	2.3%
	No Opinion	111	226	264	233	150	135	63
		18.0%	36.6%	42.8%	37.8%	24.4%	21.9%	10.2%
	Positive	459	315	168	311	382	413	540
		74.4%	51.1%	27.2%	50.5%	62.1%	66.9%	87.5%
	N	617	617	617	616	615	617	617
p-value of Chi-Square		0.421	0.359	0.319	0.712	0.818	0.407	0.370

Questions		Q15	Q16	Q17	Q18	Q19	Q20	Q21
	Levels							
Male	Negative	22	5	9	12	41	5	8
		5.9%	1.3%	2.4%	3.2%	11.0%	1.3%	2.1%
	No Opinion	62	31	41	51	71	45	45
		16.6%	8.3%	11.0%	13.7%	19.0%	12.1%	12.1%
	Positive	289	338	324	309	262	323	319
		77.5%	90.4%	86.6%	83.1%	70.1%	86.6%	85.8%
	N	373	374	374	372	374	373	372
Female	Negative	13	3	10	5	29	4	3
		5.3%	1.2%	4.1%	2.1%	11.9%	1.6%	1.2%
	No Opinion	52	26	31	22	51	25	34
		21.5%	10.7%	12.7%	9.0%	20.9%	10.2%	14.0%
	Positive	177	215	203	217	164	215	206
		73.1%	88.1%	83.2%	88.9%	67.2%	88.1%	84.8%
	N	242	244	244	244	244	244	243
Total	Negative	35	8	19	17	70	9	11
		5.7%	1.3%	3.1%	2.8%	11.3%	1.5%	1.8%
	No Opinion	114	57	72	73	122	70	79
		18.5%	9.2%	11.7%	11.9%	19.7%	11.3%	12.8%
	Positive	466	553	527	526	426	538	525
		75.8%	89.5%	85.3%	85.4%	68.9%	87.2%	85.4%
	N	615	618	618	616	618	617	615
p-value of Chi-Square		0.691	0.854	0.715	0.475	0.904	0.903	0.785

Questions		Q22	Q23	Q24	Q25	Q26	Q27	Q28
Levels		L2	L3	L2	L3	L2		
Male	Negative	154	320	168	211	177	105	8
		41.2%	85.6%	44.9%	56.4%	47.3%	28.1%	2.1%
	No Opinion	128	40	107	102	90	145	54
		34.2%	10.7%	28.7%	27.3%	24.3%	38.9%	14.6%
	Positive	92	14	98	61	104	123	308
		24.6%	3.7%	26.3%	16.3%	28.0%	33.0%	83.2%
	N	374	374	373	374	371	373	370
Female	Negative	82	221	110	134	123	62	3
		33.7%	90.9%	45.3%	55.1%	50.6%	25.5%	1.2%
	No Opinion	104	14	70	64	61	103	32
		42.6%	5.7%	28.8%	26.2%	24.9%	42.2%	13.1%
	Positive	58	9	63	46	61	79	210
		23.8%	3.7%	25.9%	18.9%	24.9%	32.4%	85.7%
	N	244	244	243	244	245	244	245
Total	Negative	236	541	278	345	300	167	11
		38.2%	87.5%	45.1%	55.8%	48.7%	27.1%	1.8%
	No Opinion	232	54	177	166	151	248	86
		37.5%	8.7%	28.7%	26.9%	24.5%	40.2%	14.0%
	Positive	150	23	161	107	165	202	518
		24.3%	3.7%	26.1%	17.3%	26.8%	32.7%	84.2%
	N	618	618	616	618	616	617	615
p-value of Chi-Square		0.417	0.430	0.997	0.878	0.882	0.870	0.823

Questions		Q29	Q30	Q31	Q32	Q33	Q34	Total
Levels			L2	L2	L1	L3		
Male	Negative	82	150	138	96	220	44	2,876
		21.9%	40.1%	36.9%	25.7%	58.8%	11.8%	22.7%
	No Opinion	102	119	123	113	89	78	2,759
		27.3%	31.9%	33.1%	30.4%	23.9%	21.0%	21.8%
	Positive	189	104	111	163	63	249	7,042
		50.7%	27.9%	29.8%	43.8%	16.9%	67.1%	55.5%
	N	373	373	372	372	372	371	12,677
Female	Negative	61	99	93	78	166	27	1,978
		25.1%	40.7%	38.3%	32.1%	68.3%	11.1%	23.9%
	No Opinion	74	91	92	86	57	82	2,072
		30.2%	37.1%	37.7%	35.2%	23.3%	33.5%	25.0%
	Positive	110	55	59	80	22	136	4,238
		44.9%	22.4%	24.2%	32.8%	9.0%	55.5%	51.1%
	N	245	245	244	244	245	245	8,288
Total	Negative	143	249	231	174	386	71	4,854
		23.1%	40.3%	37.5%	28.2%	62.6%	11.5%	23.2%
	No Opinion	176	210	215	199	146	160	4,831
		28.5%	34.0%	34.9%	32.3%	23.7%	26.0%	23.0%
	Positive	299	159	170	243	85	385	11,280
		48.4%	25.7%	27.6%	39.4%	13.8%	62.5%	53.8%
	N	618	618	616	616	617	616	20,965
p-value of Chi-Square		0.726	0.610	0.634	0.272	0.215	0.140	

Appendix I

Percentage of Frequency Distribution

and

p-Value of Chi-Square Test

Based upon Professional Rank

Questions		Q1	Q2	Q3	Q4	Q5	Q6	Q7
Levels					L 1	L 2	L2	
Professor	Negative	12	18	14	40	62	65	7
and		8.5%	12.7%	9.9%	28.4%	43.7%	46.1%	5.0%
Associate	No Opinion	19	26	24	31	40	33	16
Professor		13.4%	18.3%	16.9%	22.0%	28.2%	23.4%	11.3%
	Positive	111	98	104	70	40	43	118
		78.2%	69.0%	73.2%	49.6%	28.2%	30.5%	83.7%
	N	142	142	142	141	142	141	141
Assistant	Negative	14	14	10	22	44	35	7
Professor		15.2%	15.2%	10.9%	24.4%	47.8%	38.0%	7.6%
	No Opinion	7	13	8	20	26	26	11
		7.6%	14.1%	8.7%	22.2%	28.3%	28.3%	12.0%
	Positive	71	65	74	48	22	31	74
		77.2%	70.7%	80.4%	53.3%	23.9%	33.7%	80.4%
	N	92	92	92	90	92	92	92
Lecturer	Negative	43	54	45	116	167	194	24
		11.2%	14.0%	11.7%	30.3%	43.6%	50.7%	6.3%
	No Opinion	50	73	58	87	108	111	55
		13.0%	19.0%	15.1%	22.7%	28.2%	29.0%	14.3%
	Positive	291	258	282	180	108	78	305
		75.8%	67.0%	73.2%	47.0%	28.2%	20.4%	79.4%
	N	384	385	385	383	383	383	384
Total	Negative	69	86	69	178	273	294	38
		11.2%	13.9%	11.1%	29.0%	44.2%	47.7%	6.2%
	No Opinion	76	112	90	138	174	170	82
		12.3%	18.1%	14.5%	22.5%	28.2%	27.6%	13.3%
	Positive	473	421	460	298	170	152	497
		76.5%	68.0%	74.3%	48.5%	27.6%	24.7%	80.6%
	N	618	619	619	614	617	616	617
p-value of Chi-Square		0.423	0.880	0.500	0.913	0.950	0.223	0.897

Questions		Q8	Q9	Q10	Q11	Q12	Q13	Q14
Levels								
Professor	Negative	9	14	32	11	15	12	4
and		6.3%	9.9%	22.5%	7.7%	10.6%	8.5%	2.8%
Associate	No Opinion	26	46	65	46	32	27	12
Professor		18.3%	32.4%	45.8%	32.4%	22.5%	19.0%	8.5%
	Positive	107	82	45	85	95	103	125
		75.4%	57.7%	31.7%	59.9%	66.9%	72.5%	88.7%
	N	142	142	142	142	142	142	141
Assistant	Negative	11	10	23	10	9	14	0
Professor		12.0%	10.9%	25.0%	10.9%	9.8%	15.2%	0.0%
	No Opinion	11	35	39	38	25	19	8
		12.0%	38.0%	42.4%	41.3%	27.2%	20.7%	8.7%
	Positive	70	47	30	44	58	59	84
		76.1%	51.1%	32.6%	47.8%	63.0%	64.1%	91.3%
	N	92	92	92	92	92	92	92
Lecturer	Negative	27	52	130	51	58	44	10
		7.0%	13.5%	33.9%	13.3%	15.2%	11.5%	2.6%
	No Opinion	74	145	161	149	94	91	44
		19.3%	37.8%	41.9%	38.9%	24.6%	23.7%	11.4%
	Positive	283	187	93	183	230	249	331
		73.7%	48.7%	24.2%	47.8%	60.2%	64.8%	86.0%
	N	384	384	384	383	382	384	385
Total	Negative	47	76	185	72	82	70	14
		7.6%	12.3%	29.9%	11.7%	13.3%	11.3%	2.3%
	No Opinion	111	226	265	233	151	137	64
		18.0%	36.6%	42.9%	37.8%	24.5%	22.2%	10.4%
	Positive	460	316	168	312	383	411	540
		74.4%	51.1%	27.2%	50.6%	62.2%	66.5%	87.4%
	N	618	618	618	617	616	618	618
p-value of Chi-Square		0.400	0.769	0.377	0.381	0.719	0.549	0.493

Questions		Q15	Q16	Q17	Q18	Q19	Q20	Q21
Levels								
Professor	Negative	6	1	4	4	9	0	0
and		4.2%	0.7%	2.8%	2.8%	6.3%	0.0%	0.0%
Associate	No Opinion	27	9	14	14	21	16	17
Professor		19.0%	6.3%	9.9%	9.9%	14.8%	11.3%	12.1%
	Positive	109	132	124	123	112	126	124
		76.8%	93.0%	87.3%	87.2%	78.9%	88.7%	87.9%
	N	142	142	142	141	142	142	141
Assistant	Negative	4	1	2	4	10	4	2
Professor		4.4%	1.1%	2.2%	4.3%	10.9%	4.3%	2.2%
	No Opinion	15	11	12	12	12	8	12
		16.7%	12.0%	13.0%	13.0%	13.0%	8.7%	13.0%
	Positive	71	80	78	76	70	80	78
		78.9%	87.0%	84.8%	82.6%	76.1%	87.0%	84.8%
	N	90	92	92	92	92	92	92
Lecturer	Negative	25	5	13	9	50	5	9
		6.5%	1.3%	3.4%	2.3%	13.0%	1.3%	2.3%
	No Opinion	74	38	46	47	89	46	50
		19.3%	9.9%	11.9%	12.2%	23.1%	12.0%	13.1%
	Positive	285	342	326	328	246	333	324
		74.2%	88.8%	84.7%	85.4%	63.9%	86.7%	84.6%
	N	384	385	385	384	385	384	383
Total	Negative	35	7	19	17	69	9	11
		5.7%	1.1%	3.1%	2.8%	11.1%	1.5%	1.8%
	No Opinion	116	58	72	73	122	70	79
		18.8%	9.4%	11.6%	11.8%	19.7%	11.3%	12.8%
	Positive	465	554	528	527	428	539	526
		75.5%	89.5%	85.3%	85.4%	69.1%	87.2%	85.4%
	N	616	619	619	617	619	618	616
p-value of Chi-Square		0.899	0.721	0.946	0.875	0.114	0.207	0.665

Questions		Q22	Q23	Q24	Q25	Q26	Q27	Q28
Levels		L2	L3	L2	L3	L2		
Professor	Negative	66	129	64	82	74	48	0
and		46.5%	90.8%	45.1%	57.7%	52.5%	34.0%	0.0%
Associate	No Opinion	45	11	45	40	35	54	19
Professor		31.7%	7.7%	31.7%	28.2%	24.8%	38.3%	13.6%
	Positive	31	2	33	20	32	39	121
		21.8%	1.4%	23.2%	14.1%	22.7%	27.7%	86.4%
	N	142	142	142	142	141	141	140
Assistant	Negative	34	83	45	50	46	23	3
Professor		37.0%	90.2%	48.9%	54.3%	50.0%	25.0%	3.3%
	No Opinion	35	8	24	28	19	34	15
		38.0%	8.7%	26.1%	30.4%	20.7%	37.0%	16.3%
	Positive	23	1	23	14	27	35	74
		25.0%	1.1%	25.0%	15.2%	29.3%	38.0%	80.4%
	N	92	92	92	92	92	92	92
Lecturer	Negative	139	331	171	215	182	96	8
		36.1%	86.0%	44.6%	55.8%	47.4%	24.9%	2.1%
	No Opinion	152	34	108	97	97	160	51
		39.5%	8.8%	28.2%	25.2%	25.3%	41.6%	13.3%
	Positive	94	20	104	73	105	129	325
		24.4%	5.2%	27.2%	19.0%	27.3%	33.5%	84.6%
	N	385	385	383	385	384	385	384
Total	Negative	239	543	280	347	302	167	11
		38.6%	87.7%	45.4%	56.1%	48.9%	27.0%	1.8%
	No Opinion	232	53	177	165	151	248	85
		37.5%	8.6%	28.7%	26.7%	24.5%	40.1%	13.8%
	Positive	148	23	160	107	164	203	520
		23.9%	3.7%	25.9%	17.3%	26.6%	32.8%	84.4%
	N	619	619	617	619	617	618	616
p-value of Chi-Square		0.609	0.356	0.886	0.844	0.786	0.422	0.453

Questions		Q29	Q30	Q31	Q32	Q33	Q34	Total
Levels			L2	L2	L1	L3		
Professor	Negative	36	57	59	40	88	20	1061
and		25.5%	40.4%	41.8%	28.6%	62.9%	14.3%	22.3%
Associate	No Opinion	33	48	40	36	30	28	1025
Professor		23.4%	34.0%	28.4%	25.7%	21.4%	20.0%	21.5%
	Positive	72	36	42	64	22	92	2682
		51.1%	25.5%	29.8%	45.7%	15.7%	65.7%	56.3%
	N	141	141	141	140	140	140	4768
Assistant	Negative	17	38	31	18	47	6	691
Professor		18.5%	41.3%	33.7%	19.6%	51.1%	6.5%	22.1%
	No Opinion	32	25	32	36	24	20	700
		34.8%	27.2%	34.8%	39.1%	26.1%	21.7%	22.4%
	Positive	43	29	29	38	21	66	1,733
		46.7%	31.5%	31.5%	41.3%	22.8%	71.7%	55.5%
	N	92	92	92	92	92	92	3,124
Lecturer	Negative	88	152	140	116	251	45	3,065
		22.8%	39.4%	36.5%	30.1%	65.0%	11.7%	23.5%
	No Opinion	112	139	144	129	92	113	3,118
		29.0%	36.0%	37.5%	33.5%	23.8%	29.4%	23.9%
	Positive	186	95	100	140	43	227	6,883
		48.2%	24.6%	26.0%	36.4%	11.1%	59.0%	52.7%
	N	386	386	384	385	386	385	13,066
Total	Negative	141	247	230	174	386	71	4,817
		22.8%	39.9%	37.3%	28.2%	62.5%	11.5%	23.0%
	No Opinion	177	212	216	201	146	161	4,843
		28.6%	34.2%	35.0%	32.6%	23.6%	26.1%	23.1%
	Positive	301	160	171	242	86	385	11,298
		48.6%	25.8%	27.7%	39.2%	13.9%	62.4%	53.9%
	N	619	619	617	617	618	617	20,958
p-value of Chi-Square		0.468	0.658	0.597	0.176	0.165	0.179	

Appendix J

Percentage of Frequency Distribution

and

p-Value of Chi-Square Test

Based upon Academic Degree

Questions		Q1	Q2	Q3	Q4	Q5	Q6	Q7
Levels					L 1	L 2	L2	
Doctor	Negative	26	26	19	49	80	83	8
		13.8%	13.8%	10.1%	26.3%	42.3%	44.1%	4.3%
	No Opinion	20	35	23	38	59	50	23
		10.6%	18.5%	12.2%	20.4%	31.2%	26.6%	12.2%
	Positive	143	128	147	99	50	55	157
		75.7%	67.7%	77.8%	53.2%	26.5%	29.3%	83.5%
	N	189	189	189	186	189	188	188
Master	Negative	43	57	45	116	173	190	27
		11.1%	14.7%	11.6%	30.1%	44.8%	49.2%	7.0%
	No Opinion	44	66	58	89	103	108	51
		11.4%	17.0%	14.9%	23.1%	26.7%	28.0%	13.2%
	Positive	300	265	285	181	110	88	309
		77.5%	68.3%	73.5%	46.9%	28.5%	22.8%	79.8%
	N	387	388	388	386	386	386	387
Bachelor	Negative	0	2	3	9	16	16	1
		0.0%	5.4%	8.1%	24.3%	43.2%	43.2%	2.7%
	No Opinion	9	9	7	10	10	11	8
		24.3%	24.3%	18.9%	27.0%	27.0%	29.7%	21.6%
	Positive	28	26	27	18	11	10	28
		75.7%	70.3%	73.0%	48.6%	29.7%	27.0%	75.7%
	N	37	37	37	37	37	37	37
Total	Negative	69	85	67	174	269	289	36
		11.3%	13.8%	10.9%	28.6%	44.0%	47.3%	5.9%
	No Opinion	73	110	88	137	172	169	82
		11.9%	17.9%	14.3%	22.5%	28.1%	27.7%	13.4%
	Positive	471	419	459	298	171	153	494
		76.8%	68.2%	74.8%	48.9%	27.9%	25.0%	80.7%
	N	613	614	614	609	612	611	612
p-value of Chi-Square		0.000	0.195	0.676	0.747	0.951	0.842	0.205

Questions		Q8	Q9	Q10	Q11	Q12	Q13	Q14
Levels								
Doctor	Negative	17	23	51	18	21	17	2
		9.0%	12.2%	27.0%	9.5%	11.1%	9.0%	1.1%
	No Opinion	28	66	75	70	47	33	17
		14.8%	34.9%	39.7%	37.0%	24.9%	17.5%	9.0%
	Positive	144	100	63	101	121	139	170
		76.2%	52.9%	33.3%	53.4%	64.0%	73.5%	89.9%
	N	189	189	189	189	189	189	189
Master	Negative	28	51	121	51	59	47	10
		7.2%	13.2%	31.3%	13.2%	15.3%	12.1%	2.6%
	No Opinion	74	143	171	148	89	94	41
		19.1%	37.0%	44.2%	38.3%	23.1%	24.2%	10.6%
	Positive	286	193	95	187	237	247	336
		73.7%	49.9%	24.5%	48.4%	61.6%	63.7%	86.8%
	N	388	387	387	386	385	388	387
Bachelor	Negative	1	2	11	3	1	5	1
		2.8%	5.4%	29.7%	8.1%	2.7%	13.9%	2.7%
	No Opinion	8	14	15	12	13	9	5
		22.2%	37.8%	40.5%	32.4%	35.1%	25.0%	13.5%
	Positive	27	21	11	22	23	22	31
		75.0%	56.8%	29.7%	59.5%	62.2%	61.1%	83.8%
	N	36	37	37	37	37	36	37
Total	Negative	46	76	183	72	81	69	13
		7.5%	12.4%	29.9%	11.8%	13.3%	11.3%	2.1%
	No Opinion	110	223	261	230	149	136	63
		17.9%	36.4%	42.6%	37.6%	24.4%	22.2%	10.3%
	Positive	457	314	169	310	381	408	537
		74.6%	51.2%	27.6%	50.7%	62.4%	66.6%	87.6%
	N	613	613	613	612	611	613	613
p-value of Chi-Square		0.314	0.414	0.753	0.577	0.023	0.425	0.736

Questions		Q15	Q16	Q17	Q18	Q19	Q20	Q21
Levels								
Doctor	Negative	6	2	4	6	15	3	2
		3.2%	1.1%	2.1%	3.2%	7.9%	1.6%	1.1%
	No Opinion	32	15	20	20	29	17	24
		17.1%	7.9%	10.6%	10.6%	15.3%	9.0%	12.7%
	Positive	149	172	165	163	145	169	163
		79.7%	91.0%	87.3%	86.2%	76.7%	89.4%	86.2%
	N	187	189	189	189	189	189	189
Master	Negative	21	3	13	8	50	4	7
		5.4%	0.8%	3.4%	2.1%	12.9%	1.0%	1.8%
	No Opinion	75	39	46	49	84	47	47
		19.3%	10.1%	11.9%	12.7%	21.6%	12.1%	12.2%
	Positive	292	346	329	329	254	336	332
		75.3%	89.2%	84.8%	85.2%	65.5%	86.8%	86.0%
	N	388	388	388	386	388	387	386
Bachelor	Negative	4	1	1	2	4	1	1
		11.1%	2.7%	2.7%	5.4%	10.8%	2.7%	2.8%
	No Opinion	8	3	5	3	8	5	7
		22.2%	8.1%	13.5%	8.1%	21.6%	13.5%	19.4%
	Positive	24	33	31	32	25	31	28
		66.7%	89.2%	83.8%	86.5%	67.6%	83.8%	77.8%
	N	36	37	37	37	37	37	36
Total	Negative	31	6	18	16	69	8	10
		5.1%	1.0%	2.9%	2.6%	11.2%	1.3%	1.6%
	No Opinion	115	57	71	72	121	69	78
		18.8%	9.3%	11.6%	11.8%	19.7%	11.3%	12.8%
	Positive	465	551	525	524	424	536	523
		76.1%	89.7%	85.5%	85.6%	69.1%	87.4%	85.6%
	N	611	614	614	612	614	613	611
p-value of Chi-Square		0.140	0.790	0.948	0.636	0.465	0.695	0.455

Questions		Q22	Q23	Q24	Q25	Q26	Q27	Q28
Levels		L2	L3	L2	L3	L2		
Doctor	Negative	30	150	30	48	38	22	3
		20.3%	88.2%	22.4%	35.0%	29.7%	14.2%	1.6%
	No Opinion	71	17	54	58	43	71	27
		48.0%	10.0%	40.3%	42.3%	33.6%	45.8%	14.4%
	Positive	47	3	50	31	47	62	158
		31.8%	1.8%	37.3%	22.6%	36.7%	40.0%	84.0%
	N	148	170	134	137	128	155	188
Master	Negative	151	334	181	223	184	100	6
		38.9%	86.1%	46.8%	57.5%	47.7%	25.8%	1.6%
	No Opinion	145	35	111	98	100	164	52
		37.4%	9.0%	28.7%	25.3%	25.9%	42.3%	13.5%
	Positive	92	19	95	67	102	124	328
		23.7%	4.9%	24.5%	17.3%	26.4%	32.0%	85.0%
	N	388	388	387	388	386	388	386
Bachelor	Negative	14	35	13	20	16	10	2
		37.8%	94.6%	36.1%	54.1%	43.2%	27.8%	5.4%
	No Opinion	15	1	11	8	7	11	5
		40.5%	2.7%	30.6%	21.6%	18.9%	30.6%	13.5%
	Positive	8	1	12	9	14	15	30
		21.6%	2.7%	33.3%	24.3%	37.8%	41.7%	81.1%
	N	37	37	36	37	37	36	37
Total	Negative	195	519	224	291	238	132	11
		34.0%	87.2%	40.2%	51.8%	43.2%	22.8%	1.8%
	No Opinion	231	53	176	164	150	246	84
		40.3%	8.9%	31.6%	29.2%	27.2%	42.5%	13.7%
	Positive	147	23	157	107	163	201	516
		25.7%	3.9%	28.2%	19.0%	29.6%	34.7%	84.5%
	N	573	595	557	562	551	579	611
p-value of Chi-Square		0.979	0.190	0.534	0.436	0.248	0.451	0.471

Questions		Q29	Q30	Q31	Q32	Q33	Q34	Total
Levels			L2	L2	L1	L3		
Doctor	Negative	43	74	69	48	107	20	1,160
		22.8%	39.2%	36.5%	25.4%	56.9%	10.6%	18.8%
	No Opinion	54	59	63	62	44	38	1,402
		28.6%	31.2%	33.3%	32.8%	23.4%	20.1%	22.8%
	Positive	92	56	57	79	37	131	3,593
		48.7%	29.6%	30.2%	41.8%	19.7%	69.3%	58.4%
	N	189	189	189	189	188	189	6,155
Master	Negative	85	158	147	114	249	47	3,103
		21.9%	40.7%	38.1%	29.5%	64.2%	12.2%	23.6%
	No Opinion	108	132	133	119	94	106	3,063
		27.8%	34.0%	34.5%	30.8%	24.2%	27.5%	23.3%
	Positive	195	98	106	153	45	233	6,994
		50.3%	25.3%	27.5%	39.6%	11.6%	60.4%	53.1%
	N	388	388	386	386	388	386	13,160
Bachelor	Negative	11	14	12	9	28	1	270
		29.7%	37.8%	32.4%	24.3%	75.7%	2.7%	21.6%
	No Opinion	13	17	17	18	6	16	324
		35.1%	45.9%	45.9%	48.6%	16.2%	43.2%	25.9%
	Positive	13	6	8	10	3	20	658
		35.1%	16.2%	21.6%	27.0%	8.1%	54.1%	52.6%
	N	37	37	37	37	37	37	1,252
Total	Negative	139	246	228	171	384	68	4,533
		22.6%	40.1%	37.3%	27.9%	62.6%	11.1%	22.0%
	No Opinion	175	208	213	199	144	160	4,789
		28.5%	33.9%	34.8%	32.5%	23.5%	26.1%	23.3%
	Positive	300	160	171	242	85	384	11,245
		48.9%	26.1%	27.9%	39.5%	13.9%	62.7%	54.7%
	N	614	614	612	612	613	612	20,567
p-value of Chi-Square		0.211	0.117	0.347	0.062	0.039	0.002	

Appendix K

Percentage of Frequency Distribution

And

p-Vale of Chi-Square Test

Based upon Total Teaching Years

Questions		Q1	Q2	Q3	Q4	Q5	Q6	Q7
Levels					L 1	L 2	L2	
1-8 years	Negative	25	28	18	61	95	104	10
		10.8%	12.1%	7.8%	26.8%	41.1%	45.2%	4.3%
	No Opinion	17	36	26	46	66	70	23
		7.4%	15.6%	11.3%	20.2%	28.6%	30.4%	10.0%
	Positive	189	167	187	121	70	56	197
		81.8%	72.3%	81.0%	53.1%	30.3%	24.3%	85.7%
	N	231	231	231	228	231	230	230
9-16 years	Negative	32	36	34	76	111	118	16
		14.2%	15.9%	15.0%	33.5%	48.9%	52.2%	7.0%
	No Opinion	30	43	36	46	56	54	30
		13.3%	18.9%	15.9%	20.3%	24.7%	23.9%	13.2%
	Positive	164	148	157	105	60	54	181
		72.6%	65.2%	69.2%	46.3%	26.4%	23.9%	79.7%
	N	226	227	227	227	227	226	227
17-24 years	Negative	10	16	13	30	42	51	8
		9.1%	14.5%	11.8%	27.5%	38.9%	46.4%	7.3%
	No Opinion	20	21	19	31	39	29	21
		18.2%	19.1%	17.3%	28.4%	36.1%	26.4%	19.3%
	Positive	80	73	78	48	27	30	80
		72.7%	66.4%	70.9%	44.0%	25.0%	27.3%	73.4%
	N	110	110	110	109	108	110	109
over 25 years	Negative	1	6	4	9	22	19	3
		2.2%	13.3%	8.9%	20.5%	48.9%	42.2%	6.7%
	No Opinion	8	9	8	13	12	16	7
		17.8%	20.0%	17.8%	29.5%	26.7%	35.6%	15.6%
	Positive	36	30	33	22	11	10	35
		80.0%	66.7%	73.3%	50.0%	24.4%	22.2%	77.8%
	N	45	45	45	44	45	45	45
Total	Negative	68	86	69	176	270	292	37
		11.1%	14.0%	11.3%	28.9%	44.2%	47.8%	6.1%
	No Opinion	75	109	89	136	173	169	81
		12.3%	17.8%	14.5%	22.4%	28.3%	27.7%	13.3%
	Positive	469	418	455	296	168	150	493
		76.6%	68.2%	74.2%	48.7%	27.5%	24.5%	80.7%
	N	612	613	613	608	611	611	611
p-value of Chi-Square		0.021	0.942	0.451	0.310	0.464	0.502	0.522

Questions		Q8	Q9	Q10	Q11	Q12	Q13	Q14
Levels								
1-8 years	Negative	19	25	67	22	23	25	1
		8.2%	10.8%	29.0%	9.5%	10.0%	10.8%	0.4%
	No Opinion	35	88	99	97	53	40	18
		15.2%	38.1%	42.9%	42.0%	23.0%	17.3%	7.8%
	Positive	177	118	65	112	154	166	212
		76.6%	51.1%	28.1%	48.5%	67.0%	71.9%	91.8%
	N	231	231	231	231	230	231	231
9-16 years	Negative	17	34	75	30	45	27	8
		7.5%	15.0%	33.2%	13.3%	19.8%	11.9%	3.5%
	No Opinion	45	84	92	83	54	57	25
		19.8%	37.2%	40.7%	36.7%	23.8%	25.1%	11.0%
	Positive	165	108	59	113	128	143	194
		72.7%	47.8%	26.1%	50.0%	56.4%	63.0%	85.5%
	N	227	226	226	226	227	227	227
17-24 years	Negative	9	13	33	16	11	14	4
		8.2%	11.8%	30.0%	14.5%	10.2%	12.7%	3.7%
	No Opinion	20	38	49	34	30	26	14
		18.2%	34.5%	44.5%	30.9%	27.8%	23.6%	12.8%
	Positive	81	59	28	60	67	70	91
		73.6%	53.6%	25.5%	54.5%	62.0%	63.6%	83.5%
	N	110	110	110	110	108	110	109
over 25 years	Negative	0	3	9	3	2	4	1
		0.0%	6.7%	20.0%	6.7%	4.4%	9.1%	2.2%
	No Opinion	9	14	23	18	12	11	5
		20.5%	31.1%	51.1%	40.0%	26.7%	25.0%	11.1%
	Positive	35	28	13	24	31	29	39
		79.5%	62.2%	28.9%	53.3%	68.9%	65.9%	86.7%
	N	44	45	45	45	45	44	45
Total	Negative	45	75	184	71	81	70	14
		7.4%	12.3%	30.1%	11.6%	13.3%	11.4%	2.3%
	No Opinion	109	224	263	232	149	134	62
		17.8%	36.6%	43.0%	37.9%	24.4%	21.9%	10.1%
	Positive	458	313	165	309	380	408	536
		74.8%	51.1%	27.0%	50.5%	62.3%	66.7%	87.6%
	N	612	612	612	612	610	612	612
p-value of Chi-Square		0.157	0.462	0.507	0.426	0.037	0.790	0.611

Questions		Q15	Q16	Q17	Q18	Q19	Q20	Q21
Levels								
1-8 years	Negative	7	2	6	6	23	3	3
		3.1%	0.9%	2.6%	2.6%	10.0%	1.3%	1.3%
	No Opinion	41	18	23	31	46	22	23
		17.9%	7.8%	10.0%	13.4%	19.9%	9.5%	10.0%
	Positive	181	211	202	194	162	206	205
		79.0%	91.3%	87.4%	84.0%	70.1%	89.2%	88.7%
	N	229	231	231	231	231	231	231
9-16 years	Negative	19	3	9	8	31	4	5
		8.4%	1.3%	4.0%	3.6%	13.7%	1.8%	2.2%
	No Opinion	39	21	25	20	38	21	25
		17.2%	9.3%	11.0%	8.9%	16.7%	9.3%	11.0%
	Positive	169	203	193	197	158	201	197
		74.4%	89.4%	85.0%	87.6%	69.6%	88.9%	86.8%
	N	227	227	227	225	227	226	227
17-24 years	Negative	7	1	4	2	15	2	3
		6.4%	0.9%	3.6%	1.8%	13.6%	1.8%	2.8%
	No Opinion	24	13	17	13	26	21	23
		22.0%	11.8%	15.5%	11.8%	23.6%	19.1%	21.3%
	Positive	78	96	89	95	69	87	82
		71.6%	87.3%	80.9%	86.4%	62.7%	79.1%	75.9%
	N	109	110	110	110	110	110	108
over 25 years	Negative	2	1	0	1	1	0	0
		4.4%	2.2%	0.0%	2.2%	2.2%	0.0%	0.0%
	No Opinion	9	4	5	7	9	4	5
		20.0%	8.9%	11.1%	15.6%	20.0%	8.9%	11.4%
	Positive	34	40	40	37	35	41	39
		75.6%	88.9%	88.9%	82.2%	77.8%	91.1%	88.6%
	N	45	45	45	45	45	45	44
Total	Negative	35	7	19	17	70	9	11
		5.7%	1.1%	3.1%	2.8%	11.4%	1.5%	1.8%
	No Opinion	113	56	70	71	119	68	76
		18.5%	9.1%	11.4%	11.6%	19.4%	11.1%	12.5%
	Positive	462	550	524	523	424	535	523
		75.7%	89.7%	85.5%	85.6%	69.2%	87.4%	85.7%
	N	610	613	613	611	613	612	610
p-value of Chi-Square		0.665	0.922	0.439	0.823	0.066	0.170	0.089

Questions		Q22	Q23	Q24	Q25	Q26	Q27	Q28
Levels		L2	L3	L2	L3	L2		
1-8 years	Negative	82	202	112	138	112	62	6
		35.5%	87.4%	48.5%	59.7%	48.5%	26.8%	2.6%
	No Opinion	92	20	61	58	53	82	36
		39.8%	8.7%	26.4%	25.1%	22.9%	35.5%	15.7%
	Positive	57	9	58	35	66	87	187
		24.7%	3.9%	25.1%	15.2%	28.6%	37.7%	81.7%
	N	231	231	231	231	231	231	229
9-16 years	Negative	90	203	108	131	115	59	4
		39.6%	89.4%	47.8%	57.7%	50.9%	26.0%	1.8%
	No Opinion	80	18	65	60	58	102	27
		35.2%	7.9%	28.8%	26.4%	25.7%	44.9%	11.9%
	Positive	57	6	53	36	53	66	195
		25.1%	2.6%	23.5%	15.9%	23.5%	29.1%	86.3%
	N	227	227	226	227	226	227	226
17-24 years	Negative	43	91	37	52	52	32	1
		39.1%	82.7%	33.6%	47.3%	47.3%	28.8%	0.9%
	No Opinion	43	13	37	35	31	48	19
		39.1%	11.8%	33.6%	31.8%	28.2%	43.2%	17.1%
	Positive	24	6	36	23	27	31	91
		21.8%	5.5%	32.7%	20.9%	24.5%	27.9%	82.0%
	N	110	110	110	110	110	111	111
over 25 years	Negative	20	42	19	23	20	12	0
		44.4%	93.3%	43.2%	51.1%	45.5%	27.9%	0.0%
	No Opinion	15	2	13	10	7	13	3
		33.3%	4.4%	29.5%	22.2%	15.9%	30.2%	6.8%
	Positive	10	1	12	12	17	18	41
		22.2%	2.2%	27.3%	26.7%	38.6%	41.9%	93.2%
	N	45	45	44	45	44	43	44
Total	Negative	235	538	276	344	299	165	11
		38.3%	87.8%	45.2%	56.1%	48.9%	27.0%	1.8%
	No Opinion	230	53	176	163	149	245	85
		37.5%	8.6%	28.8%	26.6%	24.4%	40.0%	13.9%
	Positive	148	22	159	106	163	202	514
		24.1%	3.6%	26.0%	17.3%	26.7%	33.0%	84.3%
	N	613	613	611	613	611	612	610
p-value of Chi-Square		0.918	0.452	0.451	0.207	0.173	0.223	0.178

Questions		Q29	Q30	Q31	Q32	Q33	Q34	Total
Levels			L2	L2	L1	L3		
1-8 years	Negative	41	86	81	53	134	15	1,697
		17.7%	37.2%	35.1%	22.9%	58.3%	6.5%	21.6%
	No Opinion	66	76	79	73	58	55	1,727
		28.6%	32.9%	34.2%	31.6%	25.2%	23.8%	22.0%
	Positive	124	69	71	105	38	161	4,419
		53.7%	29.9%	30.7%	45.5%	16.5%	69.7%	56.3%
	N	231	231	231	231	230	231	7,843
9-16 years	Negative	65	102	95	73	148	35	1,966
		28.6%	44.9%	42.0%	32.2%	65.2%	15.4%	25.5%
	No Opinion	49	66	69	68	48	56	1,690
		21.6%	29.1%	30.5%	30.0%	21.1%	24.7%	21.9%
	Positive	113	59	62	86	31	136	4,050
		49.8%	26.0%	27.4%	37.9%	13.7%	59.9%	52.6%
	N	227	227	226	227	227	227	7,706
17-24 years	Negative	26	45	41	36	70	16	846
		23.4%	40.5%	37.3%	33.0%	63.1%	14.7%	22.7%
	No Opinion	41	45	43	36	28	34	981
		36.9%	40.5%	39.1%	33.0%	25.2%	31.2%	26.3%
	Positive	44	21	26	37	13	59	1,906
		39.6%	18.9%	23.6%	33.9%	11.7%	54.1%	51.1%
	N	111	111	110	109	111	109	3,733
over 25 years	Negative	9	14	13	12	35	5	315
		20.5%	31.8%	29.5%	27.3%	79.5%	11.4%	20.8%
	No Opinion	20	21	22	18	6	12	370
		45.5%	47.7%	50.0%	40.9%	13.6%	27.3%	24.4%
	Positive	15	9	9	14	3	27	830
		34.1%	20.5%	20.5%	31.8%	6.8%	61.4%	54.8%
	N	44	44	44	44	44	44	1,515
Total	Negative	141	247	230	174	387	71	4,824
		23.0%	40.3%	37.6%	28.5%	63.2%	11.6%	23.2%
	No Opinion	176	208	213	195	140	157	4,768
		28.7%	33.9%	34.9%	31.9%	22.9%	25.7%	22.9%
	Positive	296	158	168	242	85	383	11,205
		48.3%	25.8%	27.5%	39.6%	13.9%	62.7%	53.9%
	N	613	613	611	611	612	611	20,797
p-value of Chi-Square		0.006	0.088	0.118	0.297	0.058	0.266	

Appendix L

Results of Chi-Square Test

for

Percentage of Frequency

Based upon Region, Gender, Professional Rank,

Academic Degree, and Total Teaching Years

Questions		Region	Gender	Professional Rank	Academic Degree	Teaching Years
1. Motivate teachers to improve teaching	P	0.023	0.648	0.423	0.000	0.021
	X^2	14.650	0.868	3.875	20.607	14.952
	ϕ_c	0.135	0.066	0.080	0.185	0.137
2. Provide the opportunity of democratic training for teachers and students	P	0.349	0.198	0.880	0.195	0.942
	X^2	6.701	3.234	1.189	6.063	1.738
	ϕ_c	0.092	0.127	0.045	0.101	0.047
3. Support teaching communication between teachers and students	P	0.196	0.731	0.500	0.676	0.451
	X^2	8.625	0.628	3.357	2.328	5.760
	ϕ_c	0.104	0.056	0.075	0.062	0.085
4. Reflect teaching performance	P	0.662	0.231	0.913	0.747	0.310
	X^2	4.107	2.930	0.977	1.940	7.118
	ϕ_c	0.072	0.121	0.040	0.057	0.094
5. Be a reference for teachers' upgrade	P	0.665	0.462	0.950	0.951	0.464
	X^2	4.088	1.544	0.714	0.702	5.643
	ϕ_c	0.071	0.088	0.034	0.034	0.084
6. Elevate students' learning motivation	P	0.113	0.308	0.223	0.842	0.502
	X^2	10.294	2.356	5.697	1.410	5.329
	ϕ_c	0.113	0.109	0.097	0.048	0.082
7. Provide teachers the opportunities for self-evaluation	P	0.118	0.634	0.897	0.205	0.522
	X^2	10.161	0.911	1.084	5.917	5.169
	ϕ_c	0.113	0.067	0.043	0.099	0.080
8. You pay much attention to the results personal	P	0.498	0.421	0.400	0.314	0.157
	X^2	5.361	1.729	4.044	4.753	9.308
	ϕ_c	0.082	0.093	0.082	0.089	0.108
9. School pays much attention on the results	P	0.193	0.359	0.769	0.414	0.462
	X^2	8.671	2.047	1.821	3.941	5.667
	ϕ_c	0.104	0.101	0.055	0.081	0.084
10. Students pay much attention on the results	P	0.207	0.319	0.377	0.753	0.507
	X^2	8.448	2.284	4.223	1.904	5.294
	ϕ_c	0.103	0.107	0.084	0.056	0.081

Questions		Region	Gender	Professional Rank	Academic Degree	Teaching Years
11. Administration departments in school pay much attention to the results	P	0.060	0.712	0.381	0.577	0.426
	X^2	12.083	0.679	4.186	2.889	5.971
	ϕ_c	0.123	0.058	0.084	0.069	0.086
12. Teachers will modify teaching based on the results	P	0.026	0.818	0.719	0.023	0.037
	X^2	14.388	0.402	2.094	11.383	13.405
	ϕ_c	0.134	0.045	0.059	0.138	0.129
13. Scope should include teachers' personal character	P	0.993	0.407	0.549	0.425	0.790
	X^2	0.762	1.797	3.053	3.864	3.147
	ϕ_c	0.031	0.095	0.071	0.080	0.063
14. Scope should include teachers' teaching materials	P	0.364	0.370	0.493	0.736	0.611
	X^2	6.551	1.988	3.403	1.996	4.486
	ϕ_c	0.090	0.100	0.075	0.058	0.075
15. Scope should include the relationship between teachers and students	P	0.635	0.691	0.899	0.140	0.665
	X^2	4.311	0.740	1.070	6.921	4.090
	ϕ_c	0.073	0.061	0.042	0.107	0.072
16. Scope should include teachers' teaching methods	P	0.398	0.854	0.721	0.790	0.922
	X^2	6.231	0.315	2.080	1.706	1.972
	ϕ_c	0.088	0.040	0.059	0.053	0.050
17. Scope should include the grading or assessment of students' outcome	P	0.117	0.715	0.946	0.948	0.439
	X^2	10.182	0.671	0.745	0.729	5.863
	ϕ_c	0.113	0.058	0.035	0.035	0.086
18. Scope should include students' self-assessment	P	0.004	0.475	0.875	0.636	0.823
	X^2	18.821	1.490	1.221	2.546	2.884
	ϕ_c	0.153	0.086	0.045	0.065	0.060
19. Scope should include students' grade point average	P	0.011	0.904	0.114	0.465	0.066
	X^2	16.601	0.201	7.438	3.583	11.805
	ϕ_c	0.144	0.032	0.111	0.077	0.121
20. Scope should assess the whole teachers' instructions	P	0.067	0.903	0.207	0.695	0.170
	X^2	11.769	0.205	5.893	2.223	9.057
	ϕ_c	0.121	0.032	0.099	0.061	0.106

Questions		Region	Gender	Professional Rank	Academic Degree	Teaching Years
21. Scope should include the whole subject	P	0.907	0.785	0.665	0.455	0.089
	X^2	2.136	0.485	2.389	3.655	10.992
	ϕ_c	0.052	0.049	0.063	0.078	0.117
22. Make the relationship between teachers and students tense	P	0.926	0.417	0.609	0.979	0.918
	X^2	1.932	1.749	2.699	0.438	2.017
	ϕ_c	0.049	0.094	0.067	0.027	0.050
23. Good teacher may not get a high score	P	0.603	0.430	0.356	0.190	0.452
	X^2	4.545	1.689	4.389	6.124	5.750
	ϕ_c	0.075	0.092	0.086	0.101	0.085
24. May decrease teachers' teaching enthusiasm	P	0.120	0.997	0.886	0.534	0.451
	X^2	10.117	0.006	1.151	3.146	5.755
	ϕ_c	0.112	0.005	0.044	0.072	0.085
25. Results are consistent with teacher's expectations	P	0.400	0.878	0.844	0.436	0.207
	X^2	6.206	0.261	1.402	3.787	8.451
	ϕ_c	0.088	0.036	0.048	0.079	0.103
26. Will cause teachers lower their course requirements	P	0.472	0.882	0.786	0.248	0.173
	X^2	5.583	0.251	1.725	5.412	9.015
	ϕ_c	0.084	0.035	0.054	0.095	0.106
27. Will affect the relationship between teachers and students	P	0.279	0.870	0.422	0.451	0.223
	X^2	7.482	0.279	3.886	3.679	8.219
	ϕ_c	0.097	0.037	0.080	0.078	0.101
28. Results should notify teacher individually for the reference of improving personal teaching	P	0.079	0.823	0.453	0.471	0.178
	X^2	11.324	0.389	3.666	3.546	8.915
	ϕ_c	0.119	0.044	0.078	0.077	0.106
29. Results can be a reference of rewarding of excellent teachers	P	0.018	0.726	0.468	0.211	0.006
	X^2	15.354	0.641	3.565	5.844	18.271
	ϕ_c	0.139	0.057	0.077	0.099	0.151
30. Results can be a reference of re-employ	P	0.962	0.610	0.658	0.117	0.088
	X^2	1.455	0.988	2.424	7.377	11.011
	ϕ_c	0.043	0.070	0.064	0.111	0.117

Questions		Region	Gender	Professional Rank	Academic Degree	Teaching Years
31. Results can be a reference for promotion	P	0.367	0.634	0.597	0.347	0.118
	X^2	6.521	0.911	2.769	4.461	10.170
	ϕ_c	0.090	0.067	0.068	0.086	0.113
32. Results can be a reference for students selecting a course	P	0.501	0.272	0.176	0.062	0.297
	X^2	5.338	2.607	6.327	8.946	7.269
	ϕ_c	0.082	0.114	0.103	0.122	0.095
33. Results can be made public	P	0.237	0.215	0.165	0.039	0.058
	X^2	8.014	3.078	6.494	10.057	12.188
	ϕ_c	0.100	0.124	0.104	0.129	0.123
34. In generally, student ratings of instruction are beneficial	P	0.017	0.140	0.179	0.002	0.266
	X^2	15.458	3.929	6.278	17.367	7.642
	ϕ_c	0.139	0.140	0.102	0.170	0.098

Appendix M

Mean Rank Difference

Between Universities and Colleges of Technology

Questions	Mean Rank Of Universities	Mean Rank of Colleges	**** Mean Different	p Value
1. Motivate teachers to improve teaching	3.8	3.8	0.0	0.639
2. Provide the opportunity of democratic training for teachers and students	3.5	3.6	-0.1	0.038 *
3. Support teaching communication between teachers and students	3.8	3.7	0.0	0.861
4. Reflect teaching performance	3.3	3.2	0.1	0.302
5. Be a reference for teachers' upgrade	3.0	2.8	0.2	0.008 **
6. Elevate students' learning motivation	2.8	2.7	0.0	0.526
7. Provide teachers the opportunities for self-evaluation	3.9	3.9	0.1	0.059
8. You pay much attention to the results personal	3.9	3.8	0.1	0.012 *
9. School pays much attention on the results	3.5	3.4	0.1	0.150
10. Students pay much attention on the results	3.0	3.0	0.1	0.284

Questions	Mean Rank Of Universities	Mean Rank of Colleges	**** Mean Different	p Value
11. Administration departments in school pay much attention to the results	3.5	3.4	0.1	0.073
12. Teachers will modify teaching based on the results	3.6	3.5	0.1	0.127
13. Scope should include teachers' personal character	3.5	3.6	-0.1	0.029 *
14. Scope should include teachers' teaching materials	4.1	4.0	0.1	0.058
15. Scope should include the relationship between teachers and students	3.6	3.8	-0.3	0.000 ***
16. Scope should include teachers' teaching methods	4.1	4.1	0.1	0.152
17. Scope should include the grading or assessment of students' outcome	3.9	4.0	-0.1	0.014 *
18. Scope should include students' self-assessment	4.1	4.1	0.0	0.789
19. Scope should include students' grade point average	3.6	3.7	-0.2	0.001 **

Questions	Mean Rank Of Universities	Mean Rank of Colleges	**** Mean Different	p value
20. Scope should assess the whole teachers' instructions	4.1	4.0	0.1	0.052
21. Scope should include the whole subject	4.1	4.0	0.1	0.217
22. Will make the relationship between teachers and students tense	2.9	3.2	-0.3	0.000 ***
23. Good teacher may not get a high score	4.1	4.2	-0.1	0.105
24. May decrease teachers' teaching enthusiasm	2.9	3.2	-0.3	0.000 ***
25. Results are consistent with teacher's expectations	3.3	3.5	-0.2	0.001 **
26. Will cause teachers lower their course requirements	3.0	3.4	-0.3	0.000 ***
27. Will affect the relationship between teachers and students	2.7	3.0	-0.3	0.000 ***
28. Results should notify teacher individually for the reference of improving personal teaching	4.1	4.0	0.1	0.164

Questions	Mean Rank Of Universities	Mean Rank of Colleges	**** Mean Different	p value
29. Results can be a reference of rewarding of excellent teachers	3.4	3.3	0.1	0.063
30. Results can be a reference of re-employ	2.9	2.8	0.2	0.014 *
31. Results can be a reference for promotion	3.1	2.8	0.2	0.002 **
32. Results can be a reference for students selecting a course	3.2	3.1	0.1	0.024 *
33. Results can be notified on school's publishing	2.5	2.3	0.2	0.000 ***

* $p < .05$. ** $p < .01$. *** $p < .001$.

**** Mean rank of universities – mean rank of colleges.

Appendix N

Percentage of Frequency Difference

between

Universities and Colleges of Technology

		Q1	Q2	Q3	Q4	Q5	Q6	Q7
Universities	Negative	38	73	45	109	147	187	18
		9.4%	18.0%	11.1%	27.0%	36.3%	46.6%	4.4%
	No Opinion	57	89	54	75	98	93	34
		14.1%	22.0%	13.3%	18.6%	24.2%	23.2%	8.4%
	Positive	310	243	306	220	160	121	354
		76.5%	60.0%	75.6%	54.5%	39.5%	30.2%	87.2%
	Total	405	405	405	404	405	401	406
		100%	100%	100%	100%	100%	100%	100%
Colleges	Negative	69	86	69	179	274	295	38
		11.1%	13.8%	11.1%	29.0%	44.2%	47.7%	6.1%
	No Opinion	77	113	91	139	175	171	84
		12.4%	18.2%	14.6%	22.5%	28.2%	27.6%	13.5%
	Positive	475	423	462	299	171	153	498
		76.5%	68.0%	74.3%	48.5%	27.6%	24.7%	80.3%
	Total	621	622	622	617	620	619	620
		100%	100%	100%	100%	100%	100%	100%
*Difference	Negative	-1.7%	4.2%	0.0%	-2.0%	-7.9%	-1.0%	-1.7%
	No Opinion	1.7%	3.8%	-1.3%	-4.0%	-4.0%	-4.4%	-5.2%
	Positive	0.1%	-8.0%	1.3%	6.0%	11.9%	5.5%	6.9%

		Q8	Q9	Q10	Q11	Q12	Q13	Q14
Universities	Negative	17	39	103	35	34	54	10
		4.2%	9.7%	25.6%	8.7%	8.5%	13.3%	2.5%
	No Opinion	60	142	190	147	103	95	22
		14.9%	35.2%	47.3%	36.5%	25.7%	23.5%	5.4%
	Positive	327	222	109	221	264	256	373
		80.9%	55.1%	27.1%	54.8%	65.8%	63.2%	92.1%
	Total	404	403	402	403	401	405	405
		100%	100%	100%	100%	100%	100%	100%
Colleges	Negative	47	76	185	72	83	70	14
		7.6%	12.2%	29.8%	11.6%	13.4%	11.3%	2.3%
	No Opinion	112	227	266	234	151	137	64
		18.0%	36.6%	42.8%	37.7%	24.4%	22.1%	10.3%
	Positive	462	318	170	314	385	414	543
		74.4%	51.2%	27.4%	50.6%	62.2%	66.7%	87.4%
	Total	621	621	621	620	619	621	621
		100%	100%	100%	100%	100%	100%	100%
*Difference	Negative	-3.4%	-2.6%	-4.2%	-2.9%	-4.9%	2.1%	0.2%
	No Opinion	-3.2%	-1.3%	4.4%	-1.3%	1.3%	1.4%	-4.9%
	Positive	6.5%	3.9%	-0.3%	4.2%	3.6%	-3.5%	4.7%

		Q15	Q16	Q17	Q18	Q19	Q20	Q21
Universities	Negative	60	8	28	11	73	5	9
		14.8%	2.0%	6.9%	2.7%	18.0%	1.3%	2.3%
	No Opinion	83	18	53	47	86	37	40
		20.5%	4.4%	13.1%	11.6%	21.2%	9.3%	10.0%
	Positive	262	379	324	346	246	356	350
		64.7%	93.6%	80.0%	85.6%	60.7%	89.4%	87.7%
	Total	405	405	405	404	405	398	399
		100%	100%	100%	100%	100%	100%	100%
Colleges	Negative	35	8	19	17	70	9	11
		5.7%	1.3%	3.1%	2.7%	11.3%	1.4%	1.8%
	No Opinion	116	58	73	73	123	71	80
		18.7%	9.3%	11.7%	11.8%	19.8%	11.4%	12.9%
	Positive	468	556	530	530	429	541	528
		75.6%	89.4%	85.2%	85.5%	69.0%	87.1%	85.3%
	Total	619	622	622	620	622	621	619
		100%	100%	100%	100%	100%	100%	100%
*Difference	Negative	9.2%	0.7%	3.9%	0.0%	6.8%	-0.2%	0.5%
	No Opinion	1.8%	-4.9%	1.4%	-0.1%	1.5%	-2.1%	-2.9%
	Positive	-10.9%	4.2%	-5.2%	0.2%	-8.2%	2.3%	2.4%

		Q22	Q23	Q24	Q25	Q26	Q27	Q28
Universities	Negative	125	353	130	193	155	91	9
		30.9%	87.2%	32.1%	47.8%	38.9%	22.7%	2.3%
	No Opinion	119	26	114	110	80	101	33
		29.5%	6.4%	28.1%	27.2%	20.1%	25.2%	8.3%
	Positive	160	26	161	101	163	209	357
		39.6%	6.4%	39.8%	25.0%	41.0%	52.1%	89.5%
	Total	404	405	405	404	398	401	399
		100%	100%	100%	100%	100%	100%	100%
Colleges	Negative	239	545	281	348	304	168	11
		38.4%	87.6%	45.3%	55.9%	49.0%	27.1%	1.8%
	No Opinion	233	54	178	167	152	250	86
		37.5%	8.7%	28.7%	26.8%	24.5%	40.3%	13.9%
	Positive	150	23	161	107	165	203	522
		24.1%	3.7%	26.0%	17.2%	26.6%	32.7%	84.3%
	Total	622	622	620	622	621	621	619
		100%	100%	100%	100%	100%	100%	100%
*Difference	Negative	-7.5%	-0.5%	-13.2%	-8.2%	-10.0%	-4.4%	0.5%
	No Opinion	-8.0%	-2.3%	-0.6%	0.4%	-4.4%	-15.1%	-5.6%
	Positive	15.5%	2.7%	13.8%	7.8%	14.4%	19.4%	5.1%

		Q29	Q30	Q31	Q32	Q33	Total
Universities	Negative	86	147	127	99	220	2,838
		21.5%	36.7%	31.7%	24.7%	54.9%	21.3%
	No Opinion	76	97	103	95	96	2,673
		19.0%	24.2%	25.7%	23.7%	23.9%	20.1%
	Positive	238	157	171	207	85	7,784
		59.5%	39.2%	42.6%	51.6%	21.2%	58.5%
	Total	400	401	401	401	401	13,295
		100%	100%	100%	100%	100%	100%
Colleges	Negative	143	249	232	174	388	4,808
		23.0%	40.0%	37.4%	28.1%	62.5%	23.5%
	No Opinion	178	213	217	202	147	4,712
		28.6%	34.2%	35.0%	32.6%	23.7%	23.0%
	Positive	301	160	171	244	86	10,962
		48.4%	25.7%	27.6%	39.4%	13.8%	53.5%
	Total	622	622	620	620	621	20,482
		100%	100%	100%	100%	100%	100%
*Difference	Negative	-1.5%	-3.4%	-5.7%	-3.4%	-7.6%	-2.1%
	No Opinion	-9.6%	-10.1%	-9.3%	-8.9%	0.3%	-2.9%
	Positive	11.1%	13.4%	15.1%	12.3%	7.3%	5.0%

*Positive means universities' percentage of frequency is greater than colleges'.